

TCP PILOT ASSISTANCE ON CONSERVATION AGRICULTURE CATALYZES POLICY CHANGES AND FUNDING FOR UP-SCALING

Democratic People's Republic of Korea

The government has been promoting double-cropping as one of the very few options to intensify agricultural production, in order to respond to emergency food needs in a food self-sufficiency policy context.

As a consequence, double-cropping has expanded rapidly with the combination of winter wheat/barley or potato and paddy rice, maize or soybean, increasing noticeably the yield per area cultivated.

However this programme has also produced bottlenecks for farmers in view of the high demand for inputs, including fertilizers, and its labour intensiveness. Furthermore, this practice has led to continuous soil degradation on sloping or steep land, which is the predominant topography in the country.

Against this background, the government requested assistance from the FAO to support the double-cropping programme and develop a better approach to crop production, which would be technically, economically and environmentally sustainable in the long run.

A TCP project with a budget of USD 366 000 was launched in 2002 to support the introduction and application of conservation agriculture methods on the cooperative farms.

The project showed the feasibility of conservation agriculture to achieve sustainable high production levels while at the same time improving the natural resource base and reducing the need for external production inputs.



At the end of the project, the results were convincing: the soils under conservation agriculture recovered visibly with soil structure, moisture, soil organic matter values and nutrient levels improving. The erosion was significantly reduced. The project observed production increases, productivity increases and reduced use of external inputs, with a direct improvement of farming profitability.

As a follow-up to the project, the government adopted a policy to actively promote conservation agriculture and organized extensive training and promotion activities. With donor funds additional equipment was purchased which allowed the expansion of conservation agriculture from 3 to a total of 20 cooperative farms on about 2 000 ha land.

The results of the project are radiating not only to improve food security, but also to improve the use of natural resources, especially degraded and sloping lands brought under agricultural use.

TCP/DRK/2903 + TCP/DRK/3004 (A):
"Conservation agriculture for food
security"



TCP PILOT ASSISTANCE CATALYZES IMPORTANT POLICY DECISIONS FOR THE PROMOTION OF CONSERVATION AGRICULTURE

Kazakhstan

Despite the harsh climatic conditions, the vast plains of Northern Kazakhstan were, under Soviet times, an important wheat-producing area. However, intensive cultivation took its toll on the originally very fertile soils. Wheat farming lost profitability and the wheat production area dropped down. The problems were aggravated by the old and obsolete stock of machinery which all together led to the reduction in farmland. In this situation FAO support was requested to assist in improving the profitability of wheat farming and to reduce its environmental impact on the soil resources.

A TCP project was launched in 2002 with a budget of USD 380 000 to introduce conservation agriculture (CA) into wheat-growing areas in northern Kazakhstan. The project concentrated on the following principles of CA: (i) minimum soil disturbance, ideally no-tillage and direct seeding; and (ii) permanent soil cover with residues or crops, ideally on 100 percent of the soil surface.

Four private pilot farms were selected, distributed over different parts of Northern Kazakhstan, and the above-mentioned concept of CA was introduced on demonstration areas of 200 ha on each farm. Intensive training, farmers' visits and field days resulted in a good promotion of the concept. The newly formed Kazakh Farmers' Union was a very important element in this technology transfer.

With a few exceptions, the yields increased. The production costs, especially in fuel and machinery operation, were reduced. Overall

profitability of CA was encouraging and the improvements in soil fertility were noticeable.

At the end of the project, all project farms had increased their area under CA and had started to purchase additional no-till equipment presenting plans to convert their entire farms within 2-3 years to CA. The government encouraged the adoption of CA with a policy to convert the wheat growing areas of Northern Kazakhstan over a 10-year period to CA. Supporting policies included subsidies for locally produced desiccants used for the chemical fallow and credit lines to purchase no-till equipment.

Two years after the project end, no-till farming was booming in Northern Kazakhstan. New projects for the rehabilitation of abandoned lands and degraded pasture areas have picked up the no-till direct seeding technologies to recover the land without ploughing. The number of different no-till seeders imported into the country is steadily increasing, agricultural machinery fairs are organized every year and the total area under no-till technology is expanding. Farmers are investing into their business and are breaking out of the vicious circle of poverty.



TCP FACILITY HELPS MOBILIZING USD 31.4 MILLION FOR IRRIGATION AND DRAINAGE SCHEMES

Myanmar

Rainfall patterns in Myanmar are seasonal. Annual rainfall is concentrated in the monsoon period followed by long spells of dry season. The heavy monsoon rainfall allows for a single season rain-fed paddy crop in most parts of the country but in the central dry zones supplementary irrigation is essential, even in the so-called "wet season".

Development of irrigation and drainage facilities has always been a high priority for the government but the central dry zone required special attention.

Against this background, the government requested a loan from the OPEC Fund for International Development (OFID) to finance the completion of two irrigation and drainage schemes in support of a "Water Sector Improvement Project" in the dry regions.

The project objective was to complete the construction of irrigation and drainage canal distribution networks, and associated water control structures with a view to promoting high agricultural output and increasing income and living standards of the small-scale farmers.

However OFID funding for this project was dependent on the prompt development of a project formulation report, which had to be carried out in the space of six weeks.

At a total cost of USD 155 000, assistance was provided under the TCP Facility (TCPF) to produce a project report that would adequately meet the technical requirements of the OFID, and enable it to promptly appraise the project for financing.



As a result, the TCPF acted as a broker linking the beneficiary country with the financing institutions.

The OFID will provide a loan of USD 20 million which will mainly finance the civil works, equipment and machinery, while the Government of Myanmar will provide about USD 11.4 million. The irrigation schemes would cover a net area of 38 700 ha benefiting 14 000 smallholder farm families.

TCP/MYA/3102 (D): "TCP Facility" –
Component No 5 - "Formulation of *Phyu*
and Yenwe Irrigation and Drainage
Project for OFID Funding"



TCP SUPPORT TO THE SPECIAL PROGRAMME FOR FOOD SECURITY (SPFS) IS UP-SCALED THROUGH GOVERNMENT FUNDING

Pakistan

Increasing food production through enhanced productivity being a national priority, the government started working with the FAO Special Programme for Food Security (SPFS) in order to maximize efforts in this important strategic area. A number of technological improvements related to water management were ready to be tested on pilot scale whereas improvements related to farm and input management had been tested and were ready for large scale dissemination. At this juncture, assistance was found necessary for testing and refining promising technological developments, suitable extension methods and strategies as well as for preparing monitoring and evaluation systems which could provide the basis for new investment projects.

A TCP project with a budget of USD 390 000 was therefore initiated in 1998 to support the launch of the SPFS, to enhance productivity, profitability and sustainability of production of major food crops, through the introduction of improved irrigation technologies, input use strategies and extension methods in three pilot areas, and evaluation of the impact of these interventions in terms of technical, economic and financial viability to provide the basis for their application on a wider scale.

As a result, a productivity enhancement model was developed and tested in five villages. A group extension approach was adopted, involving large groups of farmers at each session for training and technology dissemination and strengthening farmers' linkages with provincial extension staff.

Revolving funds were established and by-laws prepared for their operation.

The various on-farm water management interventions which were carried out resulted in water savings of between 25-40 percent, according to the different crops. The productivity of rice and wheat crops invariably increased by 60 to 70 percent at village level at all the pilot locations. The financial analysis suggests that farmers' individual investments were highly profitable and provided attractive rates of return. As a result, household income was almost doubled.

As a follow-up, a three-year government-funded expansion project was approved in 2001 with a budget of USD 8.5 million, to cover 109 villages of 15 districts in all four provinces of the country.

The government also decided to further up-scale the Food Security Programme to 13 000 villages in a phased programme during the next 15 years. A 5-year project was prepared including 1 012 villages as a first phase for implementation from July 2007.



TCP ASSISTANCE CONTRIBUTES TO IMPROVING THE PLANNING AND MANAGEMENT OF NATURAL RESOURCES

Samoa

Samoa, similar to other island countries, experiences extensive loss of forests as a consequence of ongoing uncontrolled conversion of forest lands to other land uses. This threatens the country's biodiversity and could see a permanent loss of forest-derived benefits in the next 20 years. The aftermath of such threats could seriously affect and destabilize the livelihoods of rural people who also have strong traditional and cultural connections with their forests.



Lack of quantitative and qualitative data and information on forests, as well as lack of technical capacity, were identified as major factors, influencing the application of adverse policies in the planning and management of forest resources.

A TCP project was launched in 2003 with a budget of USD 234 000 to fill the above institutional and technical gaps.

The project provided the country with a Forest Resource Information System together with the necessary capacity to manage, update and analyse relevant information about the forests. The project succeeded in creating networks with stakeholders and potential users to facilitate exchange of data and experiences.

Since project completion, the information system has continued to operate successfully and is constantly being updated with new data and information. The information system is now widely known as SAMFRIS, Samoa Forest Resource Information System. Many individuals and agencies, inside and outside Samoa, consult and send queries to the Samoa Forestry

Division when carrying out various assessments and studies relating to the sustainable planning and management of the country's natural resources.

SAMFRIS is also increasingly identified as one of the principal reference sources supplying data and information to agencies reporting on Samoa, in relation to International Conventions and Agreements (e.g. FRA, UNCCD and UNFCCC). SAMFRIS has the capacity to integrate many different land use data, and is appreciated for its ability to function both as a forestry and land use database.

Recently, with the strong interest expressed by the Samoa Government to use coconut oil as biofuel, SAMFRIS was used to calculate the country's coconut area and volume of oil that can be produced. It is also used to assess, monitor and map watershed areas, national parks, logging concessions and manage individual farmer forestry woodlots.

TCP/SAM/2901 (A): "Strengthening the Institutional Capacity of the Samoa Forestry Division to Effectively Plan and Manage Forest Resources"



TCP ASSISTANCE RESULTS IN THE SUCCESSFUL CONTROL OF THE DESTRUCTIVE COCONUT LEAF BEETLE

Viet Nam

The coconut hispine beetle (*Brontispa longissima* Gestro) (Coleoptera) attacks palm trees of economic and ornamental importance and is a major threat to palm plants worldwide. In August 2002, in Viet Nam, the pest was found in over 30 provinces where it had infested an estimated 6 million coconut palms.

With no viable alternative methods available, the government embarked upon a massive campaign to subsidize the use of chemicals. However, the use of pesticides on coconuts started raising serious concerns about the health risks to farmers, families and consumers. It is against this background that the government approached FAO for assistance in establishing sustainable control of this pest.

A TCP project was therefore launched in 2003 with a budget of USD 350 000 to improve the livelihoods of smallholder coconut households and revive productivity of coconut plantations through management of the coconut hispine beetle with integrated pest management (IPM) practices.

The project developed national capacity on mass rearing of *Brontispa* and its Natural Enemy, the parasitoid *Asecodes hispinarum* and increased awareness among government and provincial plant protection institutions, and particularly among farmers, about biological control. A better consideration of the use of pesticides as a last resort in pest control was promoted.

The project resulted in the successful control of the beetle.

Damage symptoms were progressively replaced by a greening of the crown as young green leaves were emerging.

Following the conclusion of the project, the University maintained a culture of the natural enemies for more than a year after the conclusion of the project, and assisted affected provinces with shipments as well as staff training. Considering that the natural enemies had become established in all southern and central provinces, activities were subsequently scaled down.

In view of the successful control of the beetle, several provinces again encouraged the cultivation of coconut as a major crop. In the central provinces, where coconut is more of a subsistence crop, farmers benefited from the many uses of the coconut tree, including sales of fresh (green) nuts, husks, shells, etc.

The positive outcomes of the project brought about the Ben Tre Province decision to re-invigorate the industry by supporting the planting of an extra 5 000 ha of coconut in 2005. Many other countries, including Thailand, PR China, Maldives, Cambodia, Lao PDR, and Nauru adopted the project approaches.



TCP/VIE/2905 (A): "Integrated pest management of coconut leaf beetle (*Brontispa longissima* Gestro) in Viet Nam"

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TCP ASSISTANCE PREPARES THE
GROUND FOR THE SUSTAINABLE
MANAGEMENT OF FORESTRY
ECO-SYSTEMS**Argentina**

Located in the south of the Jujuy Province, the "Pericos-Manantiales" basin covers an extension of 1 300 km², with a population of 100 000.

The changes in land use as well as the lack of sustainable management schemes for soils and vegetation have altered the water flows in the mountain ecosystems, causing erosion, sedimentation and floods, with far reaching economic and negative social impact in the valley and in the lower basin area.

It is against this background, that a TCP project with a budget of USD 222 000 was launched in 2002 to support the definition and implementation of integrated alternatives for sustainable management and rural production schemes.

Through a participatory and flexible focus, the project produced an assessment report, a master plan for sustainable management and a pre-investment proposal for the basin area.

In parallel, forestry pilot activities for the demonstration of production and hydrologic diversification were carried out and local capacities were strengthened.

These pilot activities demonstrated that the rational management of natural resources and the diversification of production can result in an economic improvement for the local people.

As a follow-up to the project, the Province of Jujuy established a Unit to implement the master plan. The



municipalities of the basin area also expressed their willingness to actively participate in the first phase of implementation, contributing with their own resources.

Furthermore, the methodology developed by the project was used by the Federal Government for its application to other provinces facing similar situations.

The project also played a catalytic role towards the formulation of a new forestry and natural resources conservation policy, which will enable increased Government investments in the rural sector.

TCP/ARG/2802 (A): "Manejo Sustentable de Ecosistemas Forestales de la Cuenca los Pericos-Manantiales"



TCP ASSISTANCE BOOSTS CERTIFIED CITRUS PRODUCTION IN THE YUCATAN

Mexico

Even though the state of Yucatan had some of the facilities to produce disease-free citrus budwood, the capacity to provide sufficient certified quality plants required for the implementation of the agriculture reconversion programme was inadequate. The State nursery sector was weak and the production of healthy seeds and buds to supply the nurseries insufficient. The technical capacity for citrus fruit production was limited, particularly in the areas that were previously devoted to sisal cultivation and that had been badly affected by the hurricane Isidoro.

A TCP project with a budget of USD 268 000 was launched in 2004 to strengthen the capacity to produce healthy and high-quality citrus propagation materials of superior varieties, to support the reconversion of sisal producing lands to citrus orchards.

Among the achievements of the project, were the reinforcement of the citrus germplasm collection block, and of the bud production plot as well as the strengthening of the laboratory capacity for citrus micrografting and for disease diagnosis. Two demonstration orchards were also established and six farmers' orchards rehabilitated. Ten commercial nurseries, managed by organized farmers' groups benefited from the technical assistance of the project and from the tools and healthy budwood distributed.

The establishment of a model citrus nursery was also initiated. Theoretical and practical training courses were organized for technical staff, nurseries and citrus growers.



Finally, a citrus certification programme for the state of Yucatan was prepared.

Through the project, the permanent risk of pest and disease introduction from vegetative materials obtained from other regions and countries was overcome. In addition, the cleaning of local varieties adapted to the Yucatan conditions, which had been so far particularly difficult, was initiated. With the local production of vegetative material, the state of Yucatan will no longer need to import varieties.

As a follow-up to the project, ten citrus commercial nurseries, two budwood and one seed production plots were strengthened. Through the "Support Programme to Competitiveness by Domain of Production", approximately USD 800 000 were approved in December 2005 in support of the integral citrus project of Yucatan. The prevailing rules on plant health were immediately put into practice, which resulted in an improved production of the nurseries and their certification according to the federal rules.

TCP ASSISTANCE TO IMPROVE
ARTISANAL FISHING LEADS TO AN
INCREASE OF SEMI-PROCESSED
PRODUCTS

Nicaragua

Nicaragua's North Atlantic Autonomous Region (RAAN) is an extremely poor multiethnic, multilingual and multicultural area. Unemployment affects almost 90 percent of the economically active population and food consumption is below minimum requirements. It is also a very isolated region which complicates its economic and social development.

Fisheries is one of the area's main economic activities and the most important source of income for a large number of families. However the local fishing communities face many problems such as uncontrolled fishing, divers' health problems, conflicts between fisherfolk on the use of resources, fishing areas and methods as well as inadequate fish processing and conservation methods and poor marketing techniques for fresh fish.

A TCP project was launched in 2003 with a budget of USD 296 000 to sustain Nicaragua's Regional North Atlantic Government (GRAAN) in its effort to reinforce and technically improve the different artisanal fishing activities in the coastal fishing communities located in the northern Caribbean area of the country.

Through this project, 2 495 persons from eight selected communities were trained on subjects chosen together with the benefiting community. Four training manuals were published in Spanish and in Miskito language.

The community fishers knowledge of the Code of Conduct of Responsible Fisheries was reinforced and the foundations for the creation of

community co-management systems were laid for the lagoon fisheries. The training was adapted to the different communities' lifestyle and managed to reach a large proportion of the population. Many of the lessons learned were immediately put into practice and the working methods adapted consequently, thus demonstrating general acceptance of the new techniques.

This allowed for an immediate increase of the volume of semi processed products delivered to the processing plants in the nearby province Bilwi. Women reconfirmed their role as main actors in the production chain, by taking part in the workshops, in product marketing activities and in evaluation of the results of the newly learned techniques.

The project strengthened the institutional capacity of the Regional Government to establish procedural links between the community authorities, the fisher's representatives and the local Government secretariat. This facilitated coordination mechanisms between the different parties and provided a model for the execution of similar projects.



TCP/NIC/2801 (C): "Apoyo a la Pesca Artesanal Responsable en la Region Autonoma del Atlantico Norte (RAAN)"



TCP ASSISTANCE CATALYZES IMPORTANT IMPROVEMENTS IN THE AREA OF FOOD STANDARDS AND CODEX

Paraguay

The Codex Alimentarius National Committee of Paraguay (CONACAP) was created in 1997 but did not have an organization nor a system of work to establish priorities to actualize national food standards with those of Codex. There were no programme in the country to divulge the Codex, nor did it have a training programme for CONACAP members and its Technical Subcommittees. This was preventing the country establish its position in the Codex Alimentarius Commission and its subsidiary body meetings and various forums and negotiating groups on trade, food standards and rules, at international and regional levels.

A TCP project with a budget of USD 138 000 was launched in 2002 to strengthen the management of Codex, build capacity on Codex related matters, and elaborate a plan of action to actualize national food standards.

The project improved the organization, structure and functioning of CONACAP as well as of the Codex Focal Point. Several Codex diffusion seminars were carried-out with the participation of government, industry and consumer organization sectors. A series of workshops were held, where persons, from the CONACAP and technical Subcommittees and various public and private institutions were trained in the various subjects of Codex. Plans of action were formulated to: a) actualize national food standards; b) establish an integrated surveillance system for food chemical contamination; and, c) modernize the national food control system for import and export. The CONACAP Web site was created

to diffuse Codex and facilitate the work of the CONACAP members and Technical Subcommittees.

The project had the catalytic effect to commit the participation in Codex tasks of all the ministries and institutions related to food standardization and food safety in CONACAP and its Technical Subcommittees. This generated an interest to maintain the food legislation actualized in respect of the international agreements with the view to facilitate food trade as well as the protection consumers.

As result of the project, the CONACAP has assumed the position of the only national forum where all matters related to food safety, Codex and food standards are analysed. This is expected to increase the country's capacity to set national policies in respect of the Codex standards.

As a follow-up to the project, a proposal was formulated for a decree to create the National Committee for Surveillance of Chemical Food Contamination and a decree to conform the Traceability System, Evaluation and Control of the Process. A Work Group was organized for the creation of a Network of Analytical Service.



TCP ASSISTANCE CATALYZES A WIDESPREAD ADOPTION OF SIMPLE ROOFTOP MICRO-GARDEN SYSTEMS FOR VEGETABLE PRODUCTION

Egypt

The population of major cities in Egypt continues to expand. The migration process has led to densely populated suburbs in which all the available land has been used for construction. This situation has a negative impact on the nutritional status and overall well-being of the population in the poor urban and peri-urban neighbourhoods.

To address this problem, the government decided to launch a programme to enable poor families to grow fresh vegetables on roof tops, terraces or patios. However the implementation of the programme, known as Green Food from Green Roofs (GFGR), in urban environments was hampered by a lack of experience in this field.

FAO assistance was therefore requested in order to fill some technical gaps, benefit from experiences in other countries and with similar technologies in urban and peri-urban horticulture development and to enable national scientists to become acquainted with the latest developments in terms of the production of “green”, pesticide-free vegetables.

A TCP project was launched in 2001 with a budget of USD 199 000 aimed at developing and demonstrating simple rooftop micro-garden systems for vegetable production.

Forty-eight families in each of the two project cities (Alexandria and Cairo) were selected as beneficiaries. A survey was conducted to determine which vegetables were preferred. Each family was provided with a hydroponics system. National technicians were trained in the



promotion and supervision of the Green Food from Green Roof programme.

The project covered two growing seasons: strawberry, red and white cabbage, lettuce, spinach and cabbage were cultivated during the winter and vegetable crops such as molokia, squash, tomato and cucumber were cultivated during the summer. A range of vegetable crops were cultivated in different systems and substrates at the demonstration site. Plant growth and yields obtained were generally good.

The beneficiary families were also trained in the techniques required to protect their crops from pests and diseases. Integrated production and protection (IPP) cards, a video and a website were developed.

The project succeeded in promoting the technology which proved to have a positive impact on households' food security and income. The experience continues since then and has been expanded, through the support provided by national institutions, the University of Ain Chams, local NGOs and the private sector.

TCP/EGY/0166 (A): “Green Food from Green Roofs in Urban and Peri-urban Environments”



TCP ASSISTANCE ADDRESSES SPECIFIC GAPS IN GOVERNMENT PROGRAMMES WITH SIGNIFICANT CATALYTIC EFFECTS

Iran (Islamic Republic of)

Iran has had crop variety release schemes and a programme for certified seed multiplication of agricultural and industrial crops for several years. However, the country did not have a seed law. For fruit crops the most important legislation was the Plant Protection Regulation of 1966. There were no certification schemes for fruit crops. The system for seed production was characterized as fragmented. Due to lack of skills and facilities seed health was only being checked for wheat and maize seed. To sustain and further improve yield and quality of agricultural crops, the Government considered it necessary to continue to improve the quality and quantity of seed.

A TCP project was therefore launched in 2002 with a budget of USD 363 000 to support the establishment of a modern system for efficient seed health control.

The project resulted in (i) draft legislation, regulations and seed quality and health control procedures prepared for seed certification and plant quarantine/plant protection; (ii) a functional plant health system for disease-free seed multiplication established for the major crops; (iii) the new Seed and Plant Certification, Registration Institute (SPCRI) strengthened, including facilities up-graded, staffed trained and a practical documentation system for tractability and audit, developed.

The Law "Registration of Plant Varieties and Control and Certification of Seed and Seedlings" was promulgated during the lifetime of the project in August 2003.



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The important achievements of the project have led to various initiatives in the field, including a National Policy for seed and vegetative planting material. Other important catalytic effects are: (i) the inclusion of oilseed, cotton, lucerne and potatoes in the certification scheme; (ii) the increased involvement of private companies in certification scheme for seed production and quality control activities; (iii) the implementation of the labelling and documentation system.

The Government has allocated considerable resources to support project activities, in particular to develop the institutional setup and as a follow-up of the project for the sustained development of the seed sector.

A Governmental Committee concluded that high quality seed and better management of agricultural inputs had played an important role in raising yields and increasing rural households' income.

TCP PILOT ASSISTANCE PROMOTES THE INTEGRATION OF CACTUS PEAR INTO AGRICULTURAL SYSTEMS

Ethiopia

Cactus pear fruit has become the major income and food source from June to September for a large number of Tigrayans. It is also used extensively as a source of fodder, mainly during recurrent droughts. Fruit is sold mainly on the roadside and in villages and towns within the cactus areas. Recognizing the importance of cactus pear for the semi-arid lands and its primitive utilization in the country, the Government requested assistance to initiate the process of technology transfer.



A TCP project was therefore launched in 2002 with a budget of USD 334 000 aimed at strengthening the national capabilities for cactus pear domestication, improvement and full utilization as a means to increase food security. The assistance included the provision of selected technologies, expert advice and training, as well as the acquisition of planting materials and insects for natural dye production.

The project succeeded in promoting cactus pear production as a fruit and a vegetable, as well as a forage plant for animal feed. In particular, it showed that the use of cactus leaf for human consumption can contribute to improved household food security and that cactus products are marketable with good prospects of extending this further to other communities.

Several NGOs joined the effort and supported the momentum established by the project, incorporating cactus utilization in various training development programmes and sharing their knowledge with visitors from the

neighbouring regional state of Oromiya. Their initiatives, organized as a follow-up to the project, included training on cactus food preparation for over 1 500 women and the launch of an eating place serving cactus food items.

Lessons learned through this pilot project fed into the Belgian Survival Fund financed project GCP/ETH/060/BEL - "Improving nutrition and household food security in Northern Shoa and Southern Zone of Tigray, Ethiopia", which encompassed cactus promotion as one of its activities in improving the livelihoods of the communities.

The experience gained is being applied and further expanded through the project GCP/ETH/073/ITA for "Strengthening of fruit and cactus pear production in Tigray and North Wollo", launched in July 2007 and funded by the Italian Cooperation (USD 1.35 million over two years).

TCP/ETH/2901+TCP/ETH/3002 (A):
"Cactus Pear (*Opuntia* spp.) production
and utilization"



TCP ASSISTANCE BUILDS CAPACITIES FOR WIDE-SCALE CREATION OF COMMUNITY BASED FOREST PRODUCTS ENTERPRISES

Gambia

In the Gambia, forests were deteriorating at an alarming rate partly due to the state-controlled forest management approach, which ignored the local population. In the 1990s, the Gambian Government introduced community forestry, giving ownership of the forest to the communities, in an attempt to improve forest management. But ownership alone did not motivate the communities to preserve and protect their forests.



In pursuance of this objective, in 2001 the Gambian Forestry Department, with the support of FAO, piloted a community based enterprise development programme using FAO's Market Analysis and Development (MA&D) methodology in 11 community forest areas managed by villages in the Western Division. Encouraged by the promising results of the pilot programme, the Government requested FAO assistance to build the necessary capacity to replicate, on a national scale, the process initiated in the pilot communities.

A TCP project was therefore launched in 2003 with a budget of USD 164 000 to build the capacity of the Forestry Department personnel and other stakeholders to support the creation of viable community based forest product enterprises.

In 26 villages suffering extreme poverty, people learned about the potential value of forest products and how they could be marketed more successfully. With the formation of interest groups and federations, the organizational structures and skills of the local communities in marketing their products and services were enhanced.

As a result, villagers interested in marketing forest products have set up their own businesses and organized themselves in producer associations to sell honey, logs, fuelwood, mahogany posts, handicrafts and palm oil at nearby markets. They are also selling products such as chairs, tables, lampshades, baskets and beds made of Rhun palm leaves and are making additional income from tree nurseries and ecotourism.

The project succeeded in promoting the institutionalization of FAO's MA&D methodology which has been adopted as part of the Forestry Department policy for participatory forest management and included in the training curricula of the technical forestry school.

This has been further enhanced through training at various levels. Additionally, a former project partner, the National Consultancy on Forestry Extension Services and Training, NACO, is now involved in training of trainers in Forestry Enterprise Development in Uganda, Ghana and Mozambique.

TCP ASSISTANCE PROMOTES INNOVATIVE TECHNIQUES TO REDUCE CROP LOSSES AND MITIGATE HUMAN-WILDLIFE CONFLICT

Ghana

The Kakum National Forest Park in Ghana covers an area of 350 km². It is estimated that there are over 40 farming communities, with around 600 households, within a 5 km radius of the park, whose livelihood depends on the forest ecosystem. However, the frequency and severity of elephant crop raiding and its negative impact on the food security situation in the area buffer zone had reached such a level that the Government requested FAO assistance to address the problem.



A TCP project was therefore launched in 2003 with a budget of USD 232 000 to improve food security in 10 communities around Kakum National Park and reduce wildlife/human conflict through compatible land use planning and anti-crop raiding techniques.

The project assisted farmers acquiring the capacity to apply innovative anti-crop raiding techniques, and to diversify towards alternative cropping systems and land use practices in elephant prone areas. In total 70 farmers were trained as trainers, disseminating in turn the knowledge to over 200 farmers in 12 communities.

The project resulted in 70 percent reduced crop losses, 100 percent reduction of wildlife/human conflicts, increased traditional and alternative crops values and production of non-target crops for long term food security. Increased income due to higher production, improved agricultural practices and post-harvest techniques enabled community members to make investments.

As a follow-up, financial support was provided by the Forestry Commission to the Wildlife Division and by the District Common Fund to implement activities at other sites. Project outcomes were mainstreamed in wildlife authorities, park authorities, forestry services and agricultural extension services. A training programme was established for Kakum Park managers, staff and communities around the area and training of staff in various national institutions.

The above resulted in a wide adoption by other communities of the technology for mitigating human-wildlife conflict, including some schools teaching the methods and its dissemination in West Africa, contributing thereby positively to food security and Kakum's conservation and to increased ecotourism activities.

TCP/GHA/2905 (A): "Ensuring farmers' livelihoods and food security around Kakum conservation area"



TCP ASSISTANCE SUPPORTS IMPROVED HARVESTING AND PROCESSING OF INDIGENOUS FRUITS TO SUPPLEMENT DIETS AND RURAL INCOMES

Namibia

The region of the Caprivi comprises large areas of grassland and forests irrigated by the Okavango and Zambezi Rivers whose seasonal flooding forces people to evacuate their homes and lands each year.

The communities cultivate sorghum, millet and maize on the fertile ground, but the nearby bush and forests have always been an important source of nutritious wild fruits.

In the regions of Caprivi and Kavango, about 66 wild fruit tree species have been identified that contribute daily to the diets and income of the local communities, mostly during the rainy season when the crops are not ready for harvest.

However, little was done to improve the production, quality and commercialisation of the resource. Efforts in the past were largely devoted to documenting utilisation at household level, traditional conservation efforts and the informal marketing.

A TCP project was launched in 2002 with a budget of USD 327 000 to provide local communities and national institutions with improved technologies for wild fruit tree domestication and processing.

The project activities included transfer of technology and capacity building through exchange of knowledge and training for professional staff and communities in the selection and domestication of fruit tree species and in harvesting, storage, processing and marketing of fruit products.

The project helped to improve the use of wild fruit trees to supplement



diets and incomes in rural areas.

As a follow-up, the Indigenous Fruit Tree Task Force, at the national level, is developing expansion strategies. In this context, the Directorate of Forestry in the Namibian Ministry of Environment and Tourism is working with other ministries to put in place a strategic framework to promote sustainable use of indigenous fruit trees.

Cooperation was established with the Ministry of Trade and Industry to set up mechanisms to support small and medium-scale businesses but also with a Namibia-based NGO, the Centre for Research Information and Action for Development in Africa (CRIAA-South African Development Community), and the Food Science Technology Division at the Namibian University for expansion of the experience to other communities.

TCP/NAM/0167 (A): "Domestication, Post-harvest Handling and Marketing of Selected Indigenous Fruit Trees"

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TCP ASSISTANCE PAVES THE WAY FOR THE IMPLEMENTATION OF A USD 63 MILLION NATIONAL PROGRAMME FOR FOOD SECURITY

Nigeria

Nigerian agriculture is basically rainfed, with traditional farming methods under small holdings predominating. Under existing production practices, production levels are considered unsustainable. Consequently, food production increases would have to be secured through productivity increase and adoption of integrated and irrigation production technologies by the small holders. Against this background the country requested FAO assistance under the Special Programme for Food Security (SPFS).

A project TCP/NIR/8923 - "SPFS - Pilot Phase in Kano State - Water Control Component" was launched in 1999 with a budget of USD 333 000.

As a follow-up, the Government decided to fund the extension of the SPFS to 109 sites in all 36 States and the Federal Capital Territory. The project UTF/NIR/O47/NIR "National Special Programme for Food Security (NSPFS) in Nigeria" was initiated in November 2001, with a budget of USD 45.2 million and involved some 300 000 farm families.

During the implementation of the UTF project, serious constraints were identified in respect of processing of cassava, rice, palm oil, sorghum, millet, groundnut, fish, among others.

Additional TCP assistance was provided through the project TCP/NIR/2904 - "Better Management of Post-harvest Technologies for Commercialization and Household Food Security in the Framework of the SPFS" - (USD 354 000).

Various assessments highlighted the positive impact of the NSPFS on the



standards of living of the participating farmers as well as on the capability of local government and other service providers to reach out to farming households. It was therefore felt that the potential existed for further expanding the NSPFS.

FAO assistance was provided in 2004-2005 under the project TCP/NIR/2905 - "Special Programme for Food Security - Support to the Formulation of the Extension Phase" (USD 393 000). The aim of the NSPFS is to improve national food security and reduce poverty on an economically and environmental sustainable basis, using the twin-track approach, whereby both food production and access to food are addressed.

The estimated budget of the expanded programme over the period 2007-2011 amounts to USD 363 million, including a government contribution of USD 218 million and USD 145 million from other partners (BADEA, IDB, AfDB, IFAD, etc.).

To kick-start implementation, the Government allocated an amount of USD 24.4 million under the project UTF/NIR/048/NIR which became operational in August 2007.

TCP/NIR/8923 (D); TCP/NIR/2904 (D)
and TCP/NIR/2905 (F)



TCP ASSISTANCE ON CONSERVATION AGRICULTURE IMPROVES LAND MANAGEMENT AND LIVELIHOODS OF SMALL FARMERS

Uganda

Natural resource degradation in Uganda is extremely high as farmers' subsistence farming practices lead to environmental degradation and declined soil productivity. This is partly caused by the low capacity of agricultural extension service providers to incorporate an integrated land management approach and to use farmer-participatory experiential learning extension methodologies.



A TCP project with a budget of USD 371 000 was launched in 2002. The project aimed at demonstrating the relevance of Conservation Agriculture (CA) systems and their multiple benefits in terms of productivity, sustainable use of resources and environmental services. It also explored opportunities for scaling up improved land and water management, building on CA principles.

Community action plans for demonstrating CA and improved land and water resources management were developed in four selected micro-catchments in each pilot district, with a view to restoring degraded lands and improving productivity, sustainable livelihoods and food security.

Extension agents, technicians and farmers in selected districts were trained in the Farmer Field School approach - which applies "learning by doing" methods - for farmer driven research on improved land and water management. Forty eight Farmer Field Schools (FFS) were established. Several new suitable cover crop species were introduced aiming to provide a protective cover on the soil for as long as possible

and to contribute much needed soil organic matter. Agroforestry species were also demonstrated and evaluated for use on-farm and in the villages to provide additional fodder, mulch and fuelwood. Seed production plots were successfully established, enabling farmers to multiply seed according to the needs of their farms.

Significant benefits were obtained in terms of improved crop-livestock systems productivity, reduced labour through zero/minimum tillage and cover crops which suppress weed growth, improved use of inputs, improved biodiversity and better environmental conservation.

The positive results of the project encouraged the government, through its National Agricultural Advisory Services (NAADS) programme, to expand the pilot experiences across Mbale and Pallisa districts. The NAADS staff was therefore trained through the support of a Government of Norway Trust Fund project for Scaling up of FFS on Land and Water Management in Eastern and Southern Africa.

TCP/UGA/2903 + TCP/UGA/3003 (T):
"Piloting Conservation Agriculture
for Improved Land Management and
Livelihoods of Smallholder Farmers"

For information
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TCP ASSISTANCE SUPPORTS THE FORMULATION AND ADOPTION OF THE NATIONAL LAND CONSOLIDATION STRATEGY

Lithuania

The Government of Lithuania recognized the need for a comprehensive policy to address the structure of relatively small and fragmented farms by encouraging their consolidation into more productive farm units.

In cooperation with donors and specialized agencies, several land consolidation pilot projects were implemented.

Based on this experience, the Parliament adopted amendments to the Law on Land, including the normative framework for land consolidation, in January 2004.

Regulations for the preparation and implementation of land consolidation projects were also adopted.

Furthermore, in the context of EU membership, the country prepared the "Single Programming Document" for the period 2004-06 where land consolidation was included as a measure, and 14 land consolidation projects were implemented with co-funding from the EU.

Against this background, the government requested assistance from FAO for the preparation of an operational approach that would allow for the practical and systematic national implementation of land consolidation projects. A TCP project was launched in 2006 with a budget of USD 241 000 to support the development of an operational land consolidation system.

The project supported the preparation of a national land consolidation strategy that defines goals and measures for



implementing land consolidation in a way that ensures the rational use and infrastructure development of rural areas, and provides conditions to increase farm competitiveness, protect the environment, foster culture and heritage, and develop alternative agricultural activities.

A manual on the design of land consolidation projects was elaborated together with a manual on the application for support for EU structural funds. Recommendations were formulated for short-term training courses and for longer-term education on land consolidation at universities. A strategy for a public awareness campaign for land consolidation projects was also prepared.

The project successfully paved the way for a national programme on land consolidation. In the Rural Development Programme for 2007-2013, land consolidation is also included as a measure with a large budget. In January 2008, the government approved the National Land Consolidation Strategy prepared with the assistance of the TCP project.

TCP/LIT/3101 (A): "Support to the Preparation of an Operational Land Consolidation System"



TCP PILOT ASSISTANCE CATALYZES INVESTMENT IN SMALL-SCALE MODERN ON-FARM IRRIGATION TECHNOLOGIES

Republic of Moldova

Since 1991 the irrigation subsector in Moldova has slipped into a downward spiral triggered by various economical, technical and institutional factors.

As a consequence, in western Moldova only five percent of the irrigable land was actually receiving irrigation in 2000, and the amount of water applied on this irrigated land was only about 50 percent of the irrigation requirements. This resulted in yields that were much below the irrigated yield potential.

To address these issues, the government requested assistance for piloting small-scale modern on-farm irrigation technologies.

A TCP project was therefore launched in 2002 with a budget of USD 390 000 to pilot-test and demonstrate in farmers' fields modern small-scale on-farm irrigation technologies; strengthen farmers organisations and local level service providing institutions; and analyse the constraints and opportunities for wider application of the piloted technologies.

The project was implemented over the three irrigation seasons (2003 to 2006). It included nine pilot sites (six sprinklers and three drips), covering an area of about 110 ha and directly benefiting some 116 farmers.

The project carried out (a) minor rehabilitation of small-scale irrigation schemes; (b) training of farmers in water saving and energy efficient irrigation technologies and the formation of water users associations; (c) demonstration of modern small-scale sprinkler and



drip irrigation technologies such as hand-moved, linear and centre pivot sprinkler irrigation systems; and (d) monitoring (including soil moisture through tensiometers) and evaluation programme.

The project has been generally successful in allowing the implementing agencies to accumulate knowledge on modern small-scale on-farm irrigation equipment.

It has also helped to move to greater investment in modern small-scale sprinkler systems, in particular with financial assistance from Japan under the 2KR project, further supported by funding from the European Union (USD 1.9 million).

As a result some 365 irrigation systems similar to the TCP piloted linear-move sprinkler irrigation system were imported and distributed to farmers on credit, covering some 7 300 ha.

TCP ASSISTANCE HELPS THE GOVERNMENT ACCESS EU GRANT FOR ORGANIC AGRICULTURE

Turkey

For the past two decades the Government of Turkey has been regulating and promoting organic agriculture actively for an enhanced access to the EU market. In particular, the Ministry of Agriculture was reorganized to better support the development of the sector. However, the lack of sufficiently qualified personnel and the weaknesses of the services for the organic sector constrained the potential development of organic agriculture.

To address these issues, the government decided to launch a multifaceted integrated project for which a summary project proposal was prepared. The EU in principle agreed to grant funds for the development of organic agriculture and its legal alignment. However, the government required adequate expertise for the development of a fully-fledged project proposal.

A TCP project was therefore launched in 2004 with a budget of USD 133 700 to support the preparation of a National Strategy and Action Plan for Organic Agriculture, as well as to contribute to the preparation of a follow-up project for possible EU funding.

The project organized regional and national workshops in different parts of the country on complementary topics. The expertise of civil society and the private sector was mobilized through a participatory process, ensuring an equitable and comprehensive assessment of the sector's requirements.

The assistance resulted in the preparation of a project proposal in the format required by the EU, and



enabled the government to organize the organic sector strategically by identifying gaps and opportunities and developing a National Strategy and Action Plan in Organic Agriculture.

Capacities were also strengthened in selected areas, such as the alignment of legal requirements to the EU and networks built between NGOs, academic institutions and MARA. Beyond its main purpose, the project also provided support for the revision and submission of the organic legislation to the EC for equivalency consideration.

As a follow-up, the EU granted 1 260 000 Euros to the Turkish Government for the "Development of Organic Agriculture and Legal Alignment to the EU" to assist in strengthening the central and local capacities in organic agriculture in different agro-ecological zones.

The organic law came into force in December 2004 and regulation became official in June 2005, encouraging more private investment in organic contract farming. The government has reported an increase in the number of organic producers after 2004, and a general growth of the organic sector.

TCP/TUR/3001 (F): "Formulation of a project for the development of organic agriculture and alignment of related turkish legislation"



TCP FACILITY CONTRIBUTES TO CREATE THE FOUNDATION OF THE NATIONAL WHOLESALE MARKETS SYSTEM

Ukraine

For the past four years the Government of Ukraine has been working on the creation of the agricultural wholesale markets system, discussing funding options with the World Bank and bilateral donor agencies.

To address issues related to the lack of a regulatory framework and approaches to conducting feasibility studies, the Ministry of Agricultural Policy requested FAO technical assistance to improve the base for discussion with potential investment partners.

Assistance under the TCP Facility (TCPF) was therefore launched in 2007 with a budget of USD 74 000 to provide recommendations on the Draft Law of Ukraine on Agricultural Wholesale (WM) markets, formulate implementing regulations on Wholesale Agricultural Markets (WM) and prepare guidelines for feasibility studies on WM to enable further investment mobilization.

The TCPF was complemented by assistance provided from the USAID-funded Agricultural Policy, Legal and Regulatory Reform Project and the Central European Initiative "Know-How" Fund.

The assistance resulted in the preparation of Guidelines for Feasibility Studies for Wholesale Markets; Guidelines for the Registration and Screening of Wholesale Market Proposals; a Guide to the Management of Wholesale Markets; a National Plan for Wholesale Market Development in Ukraine; and a Draft Statute of a Wholesale Food Market.



Support was also provided to review the Draft Law of Ukraine on Agricultural Wholesale Markets.

The assistance provided allowed the government to proceed with the negotiation of the Sector Wide Approach Programme which will be funded by the EU (the SWAP Programme).

It is expected that the SWAP project will identify one regional market initiative in Ukraine and support it with a feasibility study. Some limited support will also be provided in design work for the market.

The SWAP project will also assist at least six assembly markets by providing pre-feasibility studies and guide them on how to obtain access to finance. These markets will develop action plans to meet EU sanitary and phytosanitary standards and inspection procedures.