



AGRIBUSINESS PARTNERSHIP PROGRAM

**THE IMPACT OF
THE CNFA PARTNERSHIP PROGRAM
ON UKRAINE'S AGRICULTURAL SECTOR**

December 31, 1997

**A Special Report
prepared for USAID-Kyiv
by
CNFA-Kyiv**

THE CITIZEN'S NETWORK FOR FOREIGN AFFAIRS

AGRIBUSINESS PARTNERSHIP PROGRAM

Introduction

USAID/Kyiv requested CNFA to conduct an in-house "impact assessment" of the Agribusiness Partnership (AP) Program which began in Ukraine as the Food Systems Restructuring Program (FSRP) in 1993. This assessment is based on CNFA field site visits, discussions with the US agribusiness companies implementing current and recent agribusiness partnership development contracts, and on quarterly reports submitted by the US agribusiness development contractors.

The CNFA AP Program funds primarily technical assistance and training, as well as relatively modest amounts of equipment. Through this training and technical assistance, CNFA accelerates the pace at which new technologies are developed and transferred to Ukrainian businesses and farmers, and enables US agribusinesses to reach more Ukrainian agribusinesses and farms more quickly than would otherwise be possible without USAID funds. This report examines the impact of the USAID-funded technical assistance, training and equipment on Ukrainian agriculture at a sectoral level and, where possible, at the firm and farm level.

A recent assessment of the AP Program was conducted during March, 1997 by a team recruited by USAID which included Ken Peoples, Dennis Sharma and Jeff Malick. That assessment focused on five FSRP projects which had been recently completed, although one - Cargill Seed - is still on-going with funding from the Agribusiness Partnership I (AP-1) Program. The five FSRP projects examined in the "Peoples Report" are Kiev Atlantic Ukraine, Monsanto (Donetsk), Cargill Seed, Freedom Farms and Avian Farms.

This assessment builds on the March 1997 report by analyzing impact data reported by the nine active AP-1 and AP-2 projects. These are, (AP-1) Commodities International Limited, Cargill Seed, Monsanto (Dnipropetrovsk), Global Agricultural Management Enterprises (GAME), and (AP-2) American Cyanamid, Cargill Fertilizer, Progressive Genetics, Kiev Atlantic Ukraine (KAU), and Pure Sunshine.

This report analyzes the impact of the Agribusiness Partnerships on two of the three indicators for which the CNFA is responsible under the AP-2 Cooperative Grant Agreement with USAID. These indicators are land area using new technology and increases in yields from the new technologies. (The third indicator for which CNFA is responsible, that is volume of agribusiness sales, is discussed in the First Annual Report of CNFA AP-2 Program dated October, 1997.) In addition, this report includes a section on the impact of the AP Program on employment and incomes, especially where this can be aggregated or illustrated qualitatively, for private firms and private farmers. Finally, the report concludes with a section analyzing the beneficial environmental impact of the CNFA AP-funded training and technical assistance in support of disseminating new technologies and farming practices to Ukrainian firms and farmers.

1. Land Area Using New Technology

As reported in the CNFA AP-2 First Annual Report (October 1997), the estimate of total land area using new technologies which were introduced and disseminated through technical assistance and training under the AP Program is 1.53 million hectares or about 4.56 percent of the cultivated land in Ukraine. This involves the use of improved and hybrid maize, sunflower and soy seeds introduced and disseminated by Freedom Farm, Cargill and Progressive Genetics, the application of plant protection materials supplied by Monsanto and American Cyanamid, or from DuPont, AgrEvo and other suppliers working with Kiev Atlantic Ukraine or GAME, the recent introduction of improved blends of fertilizer from Cargill, and the use of modern farming equipment supplied to or through AP Projects by US farm equipment companies such as Case - International Harvester, AGCO (Massey Ferguson), Iowa Export-Import (KINZE planters), Great Plains seed drills and others.

The nine CNFA agribusiness partnerships which are Farm Service and Supply Center projects, have had a collective overall positive impact on Ukrainian agriculture, improving the cultivation and harvesting of major food and industrial crops in Ukraine, specifically, corn, sunflower, soy and wheat. The impacts are as follows:

* **Cargill Seed** reported in 1996, during the life of FSRP, that a total of 120,000 hectares (ha) had been planted with their improved seeds, a fourfold increase over the 1995 level of 30,000 ha, involving 450 farms among whom are 30 privately owned farms. As a result of the AP-1 Program, Cargill expanded their customer clients to more than **500 farms** in 1997, despite the difficulties in recovering bad debts from the troubled 1996 marketing season. Cargill estimates that more than **150,000 ha of farm land** is using improved corn and sunflower seeds and complementary technologies.

Private Farmer Benefits from Cargill Seed and Fertilizer and Monsanto Training

Vladimir Ragulin, chairman of the Marinskyi raion Private Farmers Association (PFA) in Donetsk oblast, established his own private farm in 1993. Starting with only ten hectares, Vladimir has gradually added land to his farm through leasing land from his neighbors. In 1997, he purchased, on credit from Cargill, some blended fertilizer products and sunflower seeds. The results from the application of these two new technologies were significant - Vladimir realized an increase in yield of almost 100% from what he used to obtain using traditional seeds in previous years. Mr. Ragulin received training from Monsanto which was useful in applying the new, improved products from Cargill. As a result of the increased productivity, after selling his crop Vladimir still had enough cash to pay 50% down on a new tractor. Vladimir plans to lease an additional 300 hectares next year and to use Cargill products again.

* **Monsanto-Agrodon** (FSRP) introduced modern conservation tillage practices to 420 farms covering more than 300,000 ha alone in Donetsk oblast in 1996 and greatly expanded their program in 1997 to cover more than **420,000 ha** belonging to **460 farms**. Monsanto and Agrodon serve about **20 private farms in Donetsk oblast** or 2 percent of the private farms in that region.

* **Monsanto-Dniprolan** (AP-1) has used CNFA-funded technical assistance and training to bring more than **200,000 ha of farmland** under cultivation using soil-conserving minimum and no-till technology on more than **250 farms** in Dnipropetrovsk oblast.

* **Freedom Farm (FSRP)** introduced and disseminated minimum-till methods of farming sunflower, corn and soy to four farms covering more than **20,000 ha** of land

* During the FSRP project, in 1996, **Kiev Atlantic Ukraine (KAU)** provided 250 farms in 13 oblasts covering more than **300,000 ha** of land with seed, fuel, equipment and crop protection materials. Unfortunately, as a result of losses sustained during the 1996 marketing season, that is largely as a result of state interference in delivery of grain to private buyers, KAU had to scale back its scope of operations in 1997 accordingly. Under AP-2 funding, KAU cut back its direct links to only 36 farms, including extension of credit and inputs, covering about 40,000 ha

* The **Global Agricultural Management Enterprises (GAME)** project (AP-1) is leasing and planting almost **10,000 ha** of farm land using conservation tillage farming methods and training and providing technical assistance to more 500 farmers from three oblasts (60 of whom are private farmers from the Sumy Private Farmers' Association) in these new technologies. Estimates of the amount of farm land affected by this training and technical assistance are difficult to confirm but are in the **30-40,000 ha** range

* **American Cyanamid** has used AP-2 funding to expand marketing relationships with an additional 12 Ukrainian distributors and, as a result of this technical assistance and training, credit and inputs reached more than 3600 farms, of whom 100 are private farms, covering a total of **180,000 ha** of farm land

* **Cargill Fertilizer** AP-2 funded technical assistance and training enabled the firm and their Ukrainian partner to cover a total of **217,000 ha** on 62 farms using new custom soil testing kits and applying new fertilizer blends

* **Progressive Genetics** (AP-2) used USAID funds provided through CNFA to provide technical assistance and training to helped 19 farms during 1997 put more than **4500 ha** under improved farming methods, including high yielding varieties of soy seed using modern farming equipment

2 Increases in Yields Using the New Technologies

Applying new technologies, either alone or in combination with complementary packages, including plant protection materials, fertilizers, seeds, and modern farming equipment, CNFA agribusiness partners have successfully raised yields and productivity to very high levels in Ukraine. These results are impressive and important. The results demonstrate to Ukrainian farmers that the enormous potential of their rich land can be realized. The rise in productivity has helped maintain agricultural production at profitable levels on select farms at a time when Ukraine's aggregate production, especially on state or collective farms which remain dependent on state marketing institutions, is stagnant or in decline. The impressive increase in productivity of the four major crops on which our partners focus is illustrated on the following page

AGRICULTURAL YIELDS under the CNFA AP PROGRAM			
Commodity	Baseline Yield (1995)	Current AP Yields	Percentage Increase
Corn	2.9 tons per ha	3.5 tons per ha	21 %
Sunflower	1.4 tons per ha	2.6 tons per ha	85%
Soy	0.9 tons per ha	2.5 tons per ha	177%
Wheat	2.9 tons per ha	3.6 tons per ha	27%

The new varieties of corn and sunflower seeds being introduced and disseminated throughout Ukraine have been developed through the support of the CNFA agribusiness partnership program. CNFA's AP Program has funded Cargill's Seed partnership with the **Ukraine Grain Research Institute**. As a result of the training and technical assistance implemented under the CNFA development contract, Cargill has strengthened their Ukrainian partners' research and testing capacity and improved the ability of private farms to grow and multiply the sunflower and corn seeds. Indeed, Cargill successfully developed these improved technologies in Ukraine, using Russian and Ukrainian parent stock with imported high-yielding varieties.

Four (4) new varieties of corn and four (4) new varieties of sunflower seed have been successfully registered in Ukraine by Cargill Seed for commercial use as a result of CNFA supported development assistance.

Cargill Seed reports that fifteen (15) sunflower and five (5) hybrid corn varieties are being tested now for potential submission for registration and certification, and screening is continuing on 135 sunflower and 72 corn varieties. The latter represents an accelerated pace with more varieties being tested - which would not have been possible without CNFA AP program funding, according to Rasmus Juhl and Jay Bjerke, the Cargill Seed manager and technician, respectively, in Ukraine.

High Quality Seeds & Agrichemicals Raise Private Farmers' Productivity

Nikolay Notchenko, Igor Himli and Genadiy Phakchuk each had their own small private farm until 1996 when they decided they could do better by farming together. Merging their farms created one farm of 100 hectares on which they cultivated sunflowers, wheat, barley and potatoes. In 1997, they participated in a CNFA-funded training session organized by AGRODON at Beshevsky farm, a distributor for both Cargill and Monsanto products. Based on the training, the farmers decided to try Cargill sunflower seed and Monsanto's ROUNDUP. Genadiy said that the results at the end of the season were unbelievable. Despite exceptionally wet weather in Donetsk oblast, these Luganskoe village farmers found that they harvested twice as much as their neighbors who used traditional sunflower seed of Moldovan origin: 28 centars per hectare versus 14 for the traditional seed. The wet weather caused the traditional variety to develop stock rot, and eventually it went down under the weight, whereas Cargill's seeds had been bred specifically with stock rot resistance in the variety. From the sale of their increased yields, these farmers purchased a used harvester-combine. Igor and Nikolay also used ROUNDUP on their potato crop, and as a result they did not have to hire and pay as many laborers to weed their potatoes as in previous years, which also saved them money.

Indeed, as a direct result of the success of its USAID-funded seed research and marketing program, **Cargill invested an additional \$300,000 to up-grade an existing processing and treatment plant**. And Cargill is ready to make an even more significant investment - potentially \$50 million - in a seed crushing facility if the Government of Ukraine (GOU) approves the sale of land in Donetsk for construction of the new state-of-the-art facility. Applying modern fertilizers, plant protection materials and using new farming equipment to till, plant, weed and harvest wheat, corn, soy and sunflower has enabled Cargill, Monsanto, Kiev Atlantic Ukraine, Global Agricultural Management Enterprises, Progressive Genetics and American Cyanamid to achieve dramatic improvements in agricultural productivity on those farms working with the CNFA AP Program.

The increase in yields also translates into improved incomes for the farms using the new technologies, as will be illustrated in section four, below.

3 Impacts on Storage, AgroProcessing and Marketing

In addition to the favorable impacts the AP Program is having on agricultural production, farming practices and farm management, CNFA is also supporting improvements in storage, processing and marketing that also are adding value and productivity to the agricultural sector. The successful results achieved through such projects as Freedom Farms and KAU in storage and processing, by Avian Farms and Commodities International Limited (CIL) in poultry production, processing and marketing and by Pure Sunshine in processing and marketing, illustrate the potential for even greater food systems restructuring in Ukraine through the AP Program.

* **Freedom Farms** built a small processing plant with a capacity to process 3650 metric tons per annum. Unfortunately, in 1997, Freedom Farm only processed a total of 800 metric tons of edible oil, operating at about 22 percent capacity. This FSRP-funded project has had difficulty maintaining close marketing relationships with enough farms to operate at a larger through-put capacity because of their own difficulties in obtaining supplier credits which could be extended to partner farms to grow more soy.

* **Freedom Farms** also constructed 13 storage bins with a total capacity of 18,300 tons of grain. These grain storage facilities provide alternative storage to the state structures and help reduce post-harvest losses. Storage in these bins is estimated to have reduced handling losses by over 15% or 4500 tons during the life of the CNFA funded FSRP project.

* **Kiev Atlantic Ukraine (KAU)** has developed a model farm service and supply center through CNFA support under FSRP and AP-2 funding. Indeed, as a result of CNFA support, KAU was able to interest the European Bank for Reconstruction and Development (EBRD) to make a debt/equity investment that helped expand KAU from an initial \$7.8 million venture to a \$21 million corporation.

* **KAU** has built a large farm service and supply center in Myronivka where there is the capacity to store 8000 tons of bulk petroleum products, 7500 tons of grain, and to process 50,000 tons of soft oilseeds per annum, producing 22,000 tons of crude vegetable oil and 28,000 tons of protein meal. CNFA support has helped KAU develop the management and staff needed to operate the grain handling facility, co-financed some of the complementary equipment at the center, the contracts to install essential utilities and services for the center.

During 1997, under AP-2 funding, KAU successfully processed 1729 metric tons of soy cake, 251 tons of soy oil, 726 tons of sunflower cake and 426 tons of sunflower oil

* **Avian Farms Enterprises**, a CNFA FSRP project, formed a joint venture with Polesky State Farms and attempted to improve the poultry breeding stock in Ukraine. However, Avian Farms experienced problems when their joint venture partner tried to take over the enterprise, causing Avian Farms ultimately to withdraw from Ukraine and make a similar investment in Russia where the firm found more reliable partners.

* **Commodities International Limited (CIL)**, a CNFA poultry project funded by AP-1, had some start-up and implementation problems created by Ukrainian partners refusing to honor initial agreements and then by a local entrepreneur who tried to undermine and take over the poultry business for himself. This demonstrates some of the key problems CNFA partners and foreign investors have doing business in Ukraine, that is the difficulty of selecting reliable partners, often being unable to enforce existing contracts, and being subject to arbitrary and capricious enforcement of laws and regulations.

Despite its ultimate withdrawal from the food system in Ukraine, **Avian Farms** did have a positive impact in the following specific areas:

* **Avian Farms** successfully demonstrated the benefits of improved feed, genetics, and animal health practices to their Ukrainian partners and competitors. Avian Farms produced more than 5 million broilers in one year of operation using CNFA FSRP-funded technical assistance and training with participating poultry farms.

* **Avian Farms** successfully opened a grandparent poultry breeding facility, with genetically improved parent stock. However, maintaining this facility became difficult because of the decline in the Ukrainian domestic poultry industry - there were not enough customers for the Avian Farms birds. Ultimately Avian Farms did not replace their parent stock and began sourcing birds for its customers from Avian facilities in Holland. Eventually, for the reasons noted above, Avian Farms successfully transferred most of its operations to Russia where it operates a joint venture on three farms in Central Russia, Southern Urals and Volga basin.

* **CIL** has had slightly more success in establishing a modest, but profitable project in the poultry industry, despite start-up and implementation problems. CIL has sourced inputs for poultry feed from CNFA partners such as soy from Progressive Genetics and barley and wheat from Kiev Atlantic Ukraine.

* **CIL** has successfully lowered the feed conversion ratio from the Ukrainian standard of 4.0-5.0 kilos of feed to grow 1.0 kilo of live-weight chicken to a ratio of only 2.25 (first production cycle) and then only 2.10 kilos (second production cycle). The demonstration effect of this has been profound on the Ukrainian partner, **Zhovtneve Poultry Farm** and Zhytomer Poultry facility. The Ukrainian partner agreed to expand capacity for poultry production at the farm and added more barns using the new technology being pioneered by CIL through the CNFA-funded technical assistance and training.

* **CIL** marketing efforts, while relatively modest in scope to date, have been significant. They have marketed their new poultry products in 50 supermarkets, 25 gastronomes and 100 restaurants as well as to over 500 customers in the major urban centers of Kyiv, Odessa, Dnipropetrovsk and Donetsk. CIL has introduced and successfully sold a young, tender broiler, the "Kuritsa Broiler," in a market which was previously dominated by

sales of less expensive but old, tough, egg-laying hens who were not raised to be sold as broiler chickens

* **Pure Sunshine** is also planning to use CNFA assistance to fund training and technical advice to the dairy processing industry in Ukraine which is currently grossly under-utilized. Operating out of its base at Kyiv Milk Plant #3, Pure Sunshine marketed 10,460 liters of Florida Orange Juice at a value of \$11,715 during its brief period of implementation.

* **Pure Sunshine** is to use CNFA AP-2 funds to provide technical assistance and training to at least eight other dairy plants which also have under-utilized capacity. Since July, the time during which this development contract has been in place, the firm has identified three other plants where it will focus its CNFA-funded assistance: Kharkov, Donetsk and Odessa.

While these efforts have been modest when considered on a sectoral or even commodity system basis for Ukraine, CNFA-funded technical assistance and training in support of improved storage, agro-processing and marketing activities has the potential to have a significant demonstration impact on specific commodity systems if more projects can be implemented. However, the direct impact has already been positive for the Ukrainian partners under CNFA development contracts.

4 Impact on Employment and Incomes at the Firm and Farm Level

The "Peoples" Report (USAID, April 1997) concludes that "The [CNFA] agribusiness partnership program in Ukraine has provided the US government generally good results

- * in improving the commercial and marketing capabilities of private and demonopolizing firms in an increasingly competitive environment,
- * in accelerating the demonopolization of the former state farm structure, and
- * in expanding rapidly the transfer of US agribusiness technology and operational, managerial and technical know-how and resources to Ukraine "

The "People's Report," also notes that there are business and financial environmental impediments to the development of private farming and private farmers in Ukraine that cannot be overcome easily by the CNFA AP Program. The 36,000 private farms in Ukraine cultivate only about 2 percent of the arable land. And while there are farm restructuring activities ongoing throughout Ukraine, supported by USAID (through the RONCO project), the International Finance Corporation (IFC) and the British Know How Fund (Cargill Technical Services), the financial and marketing infrastructure does not yet exist to serve farm workers who might want to break away from the restructured collective farm, or Collective Agricultural Enterprise (CAE), and become independent, private farmers.

That is, there are no institutions or systems whereby such entrepreneurial farmers can get ready, reliable access to capital, inputs and farm machinery. While there is a process by which farm workers can break away from the CAE and receive a portion of farm machinery, such separation usually results in the now private farmer receiving old, broken or non-functioning machinery. Accordingly, few farm members to date have taken the risk. Once the input supply system becomes more liberalized and expands so that private distributors cover more of Ukraine than they do now, once the financial system becomes receptive to accepting land certificates as collateral for farm loans, and once the output marketing system

is more open and transparent, more members of CAEs are likely to take the risk to become independent private farmers

Nevertheless, private farms and some private farmers have benefitted directly to date from the CNFA agribusiness partnership program. The direct impacts of CNFA supported projects of training and technical assistance being provided by US agribusinesses to Ukrainian private farmers at the farm level have not been thoroughly documented. However, some statistics and anecdotal information do support the fact that the CNFA agribusiness partnership program is having a positive impact, enabling private farmers to apply the new technologies in a sound manner so as to increase productivity and incomes, and enabling farms to add employees so as to increase output and revenues, while also supporting increases in private Ukrainian agribusiness employment, revenues and profits

Training and Technical Assistance

* **Monsanto-DniproLan** has trained more than **1500 farmers** in modern crop production techniques, including conservation tillage

* **Global Agricultural Management Enterprises** has trained more than **500 farmers** in modern farming methods, with **152 private farmers** receiving intensive seminar training in plant protection handling, application, storage and disposal techniques

* **Cargill Seed** has provided training and technical assistance to **33 private farmers** and **1500 farm managers**, agronomists and CAE farm workers. Moreover **13 firms** have been selected and staff trained as distributors of Cargill hybrid seeds, using CNFA AP-1 funds

* **Monsanto** and its major distributor, **Agrodon**, have provided technical assistance and training to 20 private farmers in Donetsk oblast. Monsanto and Agrodon prefer to work with private farmers because they have better re-payment records than collective agricultural enterprises (CAEs). However, most private farmers operate on such small plots of land and on such a small scale, that their demand for products is low, making the costs of doing business with small, family-owned farms and private farmers almost prohibitive for Monsanto or Agrodon

* **American Cyanamid** has trained more than 1000 farmers, farm managers and farm workers at 19 in-country seminars, of which **140 were private farmers** or employees of private firms

* **Cargill Fertilizer** provided technical assistance and training in the new custom fertilizer testing and blending applications to 97 farmers of whom **7 were private farmers**

* **Progressive Genetics** is providing technical assistance and training to 5 private farmers and 14 collective agricultural enterprises (CAEs) and their farm workers

* **KAU** is providing technical assistance and training to only **8 private farmers** today. But over the course of their association with the CNFA agribusiness partners program, they have provided technical assistance, training and marketing services to 23 local farm share-holding partners and their farm workers

Employment

* **American Cyanamid** added **3 employees** to its staff while their new Ukrainian distributor partners added **26 new employees** as a result of the business expansion made possible by the CNFA AP-2 program

* **Pure Sunshine** has added 10 full-time employees to the staff of Kyiv Milk Plant #3 as a result of the addition of fruit juice processing and marketing activities

* **Agrodon** has become a major distributor of Monsanto products as a result of their relationship which was nurtured under the FSRP program and today they have almost 100 employees at the peak of the marketing season

* **Gorky Farm** (in the village of Nilolayakov, Dnipropetrovsk oblast) has also become a major distributor for both Monsanto and Cargill products as a result of the training funded under AP-1 Mr Ivan Lazarenko, Chairman of Gorky Farm, currently provides technical assistance and training to about 8 private farms but he does not anticipate working with any more than that Mr Lazarenko believes that for sunflowers, maize and wheat, large farming units or CAEs are more efficient and buy more product and so are preferred customers over small, family-owned farms and most private farmers

* As a result of their AP-1 partnership with **CIL**, the Ukrainian partner, **Zhovtneve Poultry Farm**, has increased its employment from 200 to 296 employees, 26 of whom have been added to the poultry production farm site at Popilnia and 70 at the slaughterhouse and processing facility in Zhytomer, according to Mr Valery, the Director of this private joint stock company

Incomes and Revenues

* **Cargill Seed** estimates that application of fertilizer on improved, hybrid varieties of sunflower seeds would increase yields 35 percent, adding **\$85 per hectare** to farm revenues or incomes

* **Progressive Genetics** estimates that the 5 private farmers who received their technical assistance and training in using the improved soy seeds and farming methods, raised their incomes by an average of **\$24,050 per farm** this past year

* **Cargill Fertilizer** estimates that among those farmers using the improved blended fertilizer on their winter wheat fields, a minimum increase of **\$180 per hectare** from the increased yields supported by use of the blended fertilizer product can be realized However, if farmers apply the fertilizer properly, they may also be able to raise the grade or quality of the wheat produced and thereby realize an even greater income stream That is, by using the Cargill fertilizer blends at the proper time, third class (instead of fifth class) wheat should be produced at yields of 2 to 3 tons per hectare If farmers apply a blend of 9-29-24 fertilizer, during the first three critical stages of growth prior to dormancy, both yields and wheat quality will increase, thereby raising farm income from \$315 per hectare (using the traditional method of one single application of super phosphate - SSP) to between \$669 and \$817 per hectare while spending \$3 less per hectare on the blended fertilizer products

Additional Income Using CNFA AP Funded New Technologies			
Commodity	Spot Price (Dec 4th) Ukraine	Additional Yields (tons per hectare)	Additional Income (per hectare)
Winter Wheat (Grade 3)	\$ 148	2 5	\$ 311
Grain Corn	\$ 130	0 6	\$ 78
Sunflowers	\$ 175	1 0	\$ 175
Soybeans	\$ 210	0 9	\$ 336

Incomes of individual private farmers are difficult to assess because of the traditional reluctance of farmers to divulge real revenue from selling their products. Often, private farmers barter their products through traders or receive cash which they do not report as income in order to avoid taxation. Therefore, it is extremely difficult to determine the annual incomes of farmers. Members of the collective agricultural enterprises (CAEs) usually receive a monthly salary from the CAE or joint stock company. Their incomes usually do not reflect the gross revenues of the enterprise and may even include commodities as well as cash. But, again, because of the current tax structure and enforcement of tax regulations in the agricultural sector, many CAEs disguise their revenue and incomes as well as payments to farm workers, making sound estimates of incomes, revenues or profits very difficult.

5 The Environmental Impact of the Agribusiness Partnerships

Since 1991 when Ukraine achieved its independence from the USSR, environmental laws and regulations have not been consistently applied nor have state-owned and private companies been diligent in complying with local statutes. One of the impressive achievements of the CNFA AP program has been the demonstration effect of the positive, cooperative attitude and compliance with environmental recommendations and mitigative measures which the CNFA has made to the AP firms following USAID rules and regulations.

In addition, much of the training which has been discussed above, has been oriented towards the proper and safe handling, use, application, storage and disposal of plant protection materials. This is a natural result of the fact that up until December 1997, most of the AP program partnerships have been in the field of agricultural production, working through input distribution companies. Thus, for example, much of the training which American Cyanamid, Monsanto and even the Global Agricultural Management Enterprises project has provided to private farmers and Ukrainian private farm managers and workers has focused on environmental training.

Moreover, much of the technical assistance and training which is given to farmers and farm workers has been to demonstrate the cost-saving and resource-conserving effects of minimum-till or no-till farming methods. Monsanto is a pioneer in introducing and promulgating conservation tillage methods in Ukraine. Not only has this conserved vast amounts of the rich top soil of Ukraine, it conserves energy as less fuel is used to pull a tiller across the land than would be used to run a plow through the land.

Through the AP Program processing projects, both CIL and Pure Sunshine are producing and demonstrating to their Ukrainian partners, how to produce a more nutritious, healthier food product. Technical assistance and training activities will expand these effects over the remaining life of the Pure Sunshine project.

CNFA has completed Initial Environmental Examinations (IEEs) of all its FSRP, AP-1 and AP-2 Program projects. During 1997, CNFA has also completed Environmental Assessments (EAs) of eight of its Ukraine AP projects for GAME, CIL, Cargill Seed, Cargill Fertilizer, KAU, Pure Sunshine and Monsanto's projects in Donetsk - FSRP funded and Dnipropetrovsk - AP-1 funded. These EAs were completed with the full cooperation of the US agribusiness partners. And even though the EAs have not yet been approved by USAID, our agribusiness partners and their Ukrainian partners are already implementing the recommendations and mitigative measures suggested to protect the environment at their project sites. Indeed, in some cases the partners have exceeded the minimum requirements in terms of environmental husbandry. This is an important part of a change in consciousness among the agribusinesses and the farming community in general in Ukraine about the environment.

CONCLUSION

The CNFA AP program is having a significant measurable impact in the regions where the partnership projects are based. The impacts have been favorable in terms of teaching farmers and farm workers how to use and apply modern, improved technologies including seeds, fertilizers, equipment and machinery and agrochemicals. The training and technical assistance have had a direct, positive impact on the Ukrainian agribusiness firms receiving the assistance and the private farms participating in the partnership projects.

The CNFA plans to conduct a full project completion report assessment in February, 1998 of the AP Program. That assessment will build on the earlier work done by the Peoples Group and this report.