

Country Report - China

Prepared for the meeting of the Programme Advisory Committee (PAC), Ayutthaya, Thailand, November 2001

1. Organization and Funding Arrangement

The National Agro-Technical Extension and Service Center (NATESC) under the MOA is responsible for the implementation of International and National IPM programme in China. While acting as headquarter of national technical extension including seed, fertilizer management, cultivation tech. Development and plant protection. With the implementation of the program, IPM Committees were established from national level to township (leading group), IPM Committees give the responsibility of providing for improved technical guidance, experiments, better demonstration, monitoring and evaluation of IPM. With the growing of women involvement in community IPM, Women's Union on different levels, especially on program county level have been involved since 1999 to work with agriculture agencies on the programme. During the past 2 years, the central government input more than 2 million USD to promote plant protection network in the country.

2. Training Achievements

During the period of Phase IV, training activities are mainly focused on Training of Trainer (TOT) and Farmer Field School (FFS) in the first two years, for the development of community itself and supporting star farmers to carry out farmer to farmer field school, training scales of Farmer Training of Trainer has been expended since 1999. With the improvement of the training model and the changes of training components, it is necessary to strengthen facilitators' skills for training different IPM training activities in their communities, 10-day Refresher Training of Trainer (RTOT) was started in 2000, curriculum for this training course is mainly focused on the areas of organizing and training skills. Table 1 tells activities conducted and participants trained (see next page).

**Table 1:** Training Activities Conducted From 1999 to 2001(Community IPM)

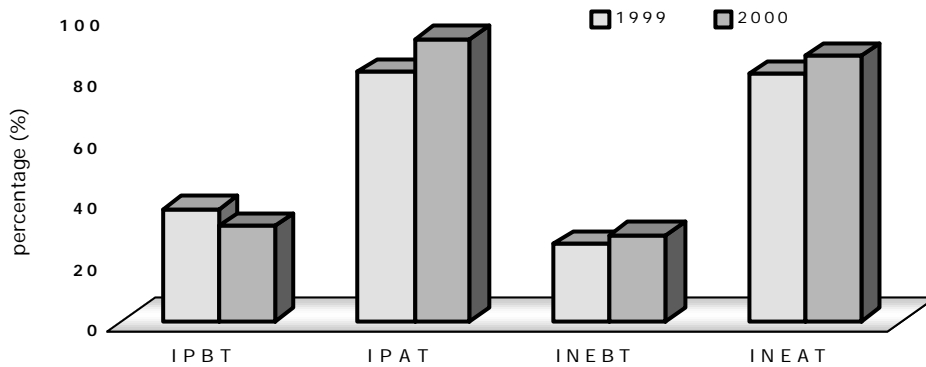
Province	Year	FFS		TOT		FTOT		RTOT	
		#	# of Participant	#	# of Participant	#	# of Participant	#	# of Participant
SC	1999	110	3300	1	30	10	280		
	2000	200	6000	1	30	20	600	1	30
	2001	200	6000	1	30	20	600	3	90
GD	1999	159	4300	1	32	2	60		
	2000	63	1890	1	30	8	240	1	30
	2001	60	1800	1	30	6	180	3	90
HB	1999	80	2400			2	62		
	2000	100	3000	1	30	5	150	1	30
	2001	100	3000	1	30	6	180	3	90
AH	1999	68	2041			2	60		
	2000	60	1600			5	150		
	2001	60	1800			5	150	2	60
ZJ	1999	30	870			1	30		
	2000	30	900			3	90	1	30
	2001	3	876			2	60		
HN	1999	8	200						
	2000	16	480			1	30		
	2001	20	580			3	90		
TOTAL		1394	41037	8	242	10 1	3012	15	450

SC: Sichuan, GD: Guangdong, HB: Hubei, AH: Anhui, ZJ: Zhijiang, HN: Hunan

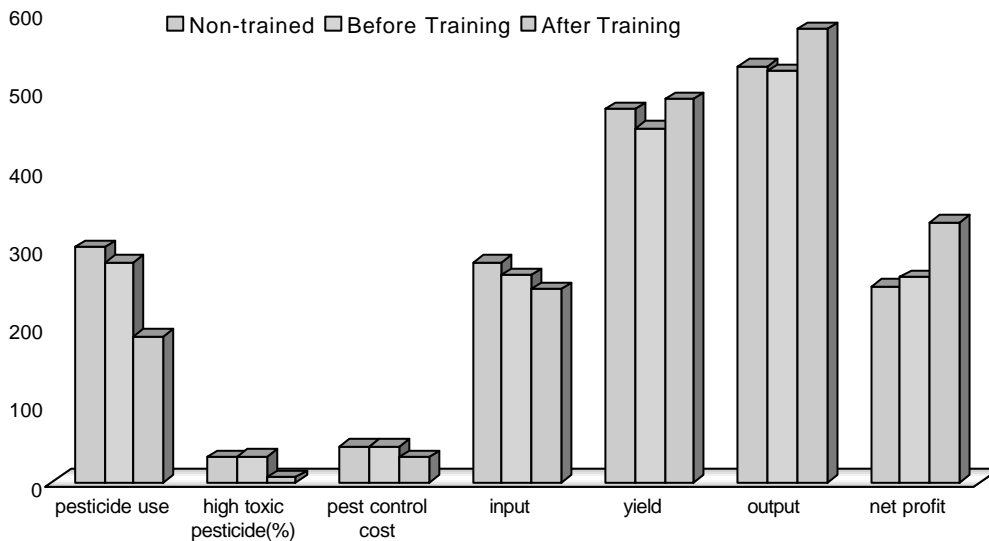
FAO/EU Cotton IPM program started in China in 2000, training activities were conducted in 11 counties of 4 provinces, 123 farmer trainers and 4119 cotton farmers were trained in 4 TOT and 140 FFS, IPM impact assessment was conducted in 3 counties of 3 provinces this. According to the situation of Bt cotton cultivation in China, Bt cotton have been extended to plant in many cotton areas in China, focused on the change of agro-system with Bt cotton plantation, farmer participatory Bt cotton study was conducted in Xiantao, Hubei and Weifang, Shandong this year as well.



With the implementation of the program, the ecological and economic benefits are achieved as well, farmers understand agro-ecosystem better (**Graph 1**), pesticides use and pest control cost were reduced as well rice yield and income were increased after IPM training (**Graph 2**).



Graph 1: Understanding of pests and natural enemies (845 FFS farmers were visited in 1999 and 838 in 2000, IPBT: know pest before training, IPAT; know pest after training, INEBT: know natural enemy before training, INEAT: know natural enemy after training)



Graph 2: Pesticide use and economic benefits (350 and 595 trained farmers, 200 and 210 non-trained were visited in 1999 and 2000)



3. Policy Developments

With the rapid economic development and improvement in living standard, people are increasingly concerned with food purity, environmental protection and sustainable community and agriculture development. There continues to be a real and growing concern by the Government and Non Government Organizations about the negative environmental and health impacts of pesticide use in agriculture. Policies restrict the use of certain pesticides and ban the use of others are being made at the national, provincial and even county levels as well as sustainable agriculture development programs were set up under the overall umbrella of the central government's concern about the overuse of pesticides.

The central government has stopped registration of 5 kinds high toxic pesticides and canceled registration of 2 kinds pesticides. Safety Food Production started by the Ministry of Agriculture this year; and regulations of pest integrated management on different crops and standards of pesticide residues in different products were issued in the past 2 years. (Standards of safety food for 9 agriculture products were issued on 3rd September, 2001). Pesticide policies changed and issued as well from national to county level, the provincial government issued policies to ban or restrict 16 kinds of high toxic pesticides to use on rice and vegetable, and re-announced for banning and restricting use of other 23 kinds of pesticides in 2000; the government of Hangzhou city, Zhejiang province banned methamidophos, parathion methyl, omethoate, carbofuran to sale on the market in 2000; provincial government of Anhui province banned methamidopho, pyrethroids to use in rice paddy and restricted use of phentriazophos in 1999; pyrethroids was banned to use on rice, organic phosphorus pesticides were restricted to use and metsulfuron-methyl, chlorsulfuron were not allowed to sale on the market in Hubei province; 17 kinds of pesticides such as methamidopho, dicofol were banned to use on tea and vegetable in Shimen, Hunan provinve, not only the policies have been changed, many provinces such as Sichuan, Guangdong, Anhui and counties have put IPM into the local sustainable agriculture development.

4. Development in Community IPM

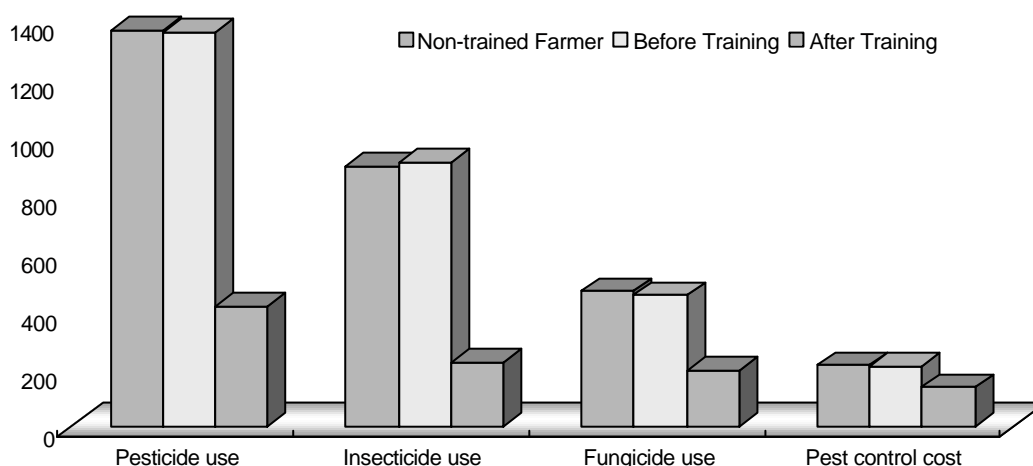
Rice-based IPM training is focused on help farmer to understand agro-ecosystem, generation of knowledge, development of human resource, to support farmer to improve and develop themselves and to guide farmers to practice IPM in agriculture for sustainable development as well as increase farmer's income through the training process. Most farmers will not just grow single crop like in the past, farming system such as inter-cropping with cash crop and rice and wheat, rotation were practice by more and more farmers in the past few years. It causes the change of agro-ecosystem as well as new pest problems in agriculture. Meeting with the demands of farmers, 168 FFSs on other cash crops, such as tea, vegetable, citrus, Chrysanthemum, melon, peanut and other crops and 81 Farmer-led FFSs have been conducted since 1999 (**Table 2**). Through the implementation of these training activities, economic profits and ecological



benefits on cash crops IPM training has attracted (**Graph 3**) more and more farmer to participate IPM training and practice IPM in agriculture. For the reason of support these trained farmers and farmer leaders to help others to understand and practice IPM; exchange and share IPM experiences, information as well as solve same problems in their communities, 624 Farmer Groups and IPM Alumni Associations were established under the support of extension in different areas, members get together regularly to discuss local problems and find the solution. It effectively supports the development of community IPM itself.

Table 2: Different FFS conducted since 1999

Number of FFS	FFS on other crops	Women FFS	Farmer-led FFS
1394	168	78	81



Graph 3: Change of pesticide use of Chrysanthemum farmer (58 trained and 28 non-trained farmer were visited in 1999, Shexian and Anhui)

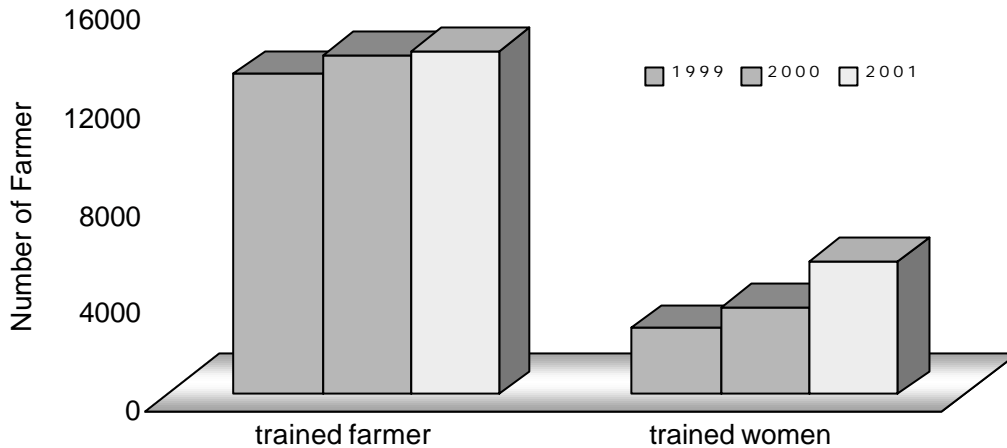
In Xinshi Town, Mianzhu City, Sichuan province, 7 women FFS carried out at the same time this year, all the participants actively participated in FFS, it made the local government assigned special fund to support FFS for women. Jinlan village as the first IPM village was emerged in China this year.

5. Other Developments

With the change of labor responsibilities in agriculture, it has been widely recognized that women have always play very important roles in agriculture. In many countries, such as China, women are presenting greater decision-making, labor responsibilities while their husbands and sons seek work in urban areas now. It means that is very important for women with their growing involvement in community IPM. The number of female participant in IPM training increased significantly in year 2000 & 2001 in China, women



FFS was started Mianzhu city, Sichuan province in 1999, more and more women are involved and interested in participatory IPM training (**Graph 4**), this type of training was continuously conducted in Sichuan, Guangdong, Hubei and Anhui provinces, and the training scales were enlarged as well. 78 Women FFSs with the support and corporation with Women Union have been carried out since 1999.



Graph 4: Women involved in FFS training

On the other hand, for the development of community IPM itself, one of the most important things has to be concerned is how to attract and keep farmer to learn and practice IPM continuously through the implementation of the program. It means that government and agro-extension agencies should know what is the most important thing which farmers are interest in, economic profits is the key point. Focused on increasing farmer's income and demands of the market with the increase of living standard, the Community IPM Follow-up project of organizing IPM farmer to produce IPM products was also started in 1999 in Sichuan province, IPM rice, IPM tea, IPM logon, IPM Chrysanthemum ect.. are available in the market, and the price is 20-30% higher than others, that makes more and more farmers actively to attend FFS and want to be member of IPM group. With the demands of the market and the development of IPM products, the first IPM Store was opened in August this year.



Left:
IPM Tea



Right:
IPM Rice



6. Future Plans and Priorities

Plans for 2002:

Training Activities:

- Training of Trainers (TOTs)
- Post-TOT training
- Farmer TOT
- Farmer Field Schools

Case Studies:

- Improvement of training skills
- Farmer how to be expert
- How to make farmer to be expert
- Impacts of C-IPM

7. Strategy for the future

The implementation of Community IPM changed government officials, extension technicians, research experts and farmers from technology focused in the past to participatory and integrated management now on pest control in agriculture practice. Regulations and policies to ban and restrict high toxic and certain pesticides using on different crops were issued from the central government to township, regulations of pest integrated management on different crops and standards of pesticide residues in different products were also issued in the past few years. The Ministry of Agriculture started Safety Food Production this year. Market-oriented quality agriculture makes Chinese farmer being independent in agriculture practice. They decide to choose which crops to plant are mostly depends on the market, and usually decide how to manage their own fields by themselves. For example, what rice-based farmer need is not only rice pest control technology, but also the related knowledge of integrated pest control, reasonable fertilizer use and irrigating technologies and market information.

China has realized the changes and needs of farmer through the implementation of the programme, the most important thing which farmers are interest in and the key point on economic profits. Aimed at attracting and keeping farmer to learn and practice IPM continuously as well as development of community IPM itself, focused on increasing farmer's income and demands of the market with the increase of farmer's competition capacity in the market, the Community IPM Follow-up project of organizing IPM farmer to produce IPM products started in 1999, and developed rapidly, now, kinds of IPM products are available in the market, and the price is 20-30% higher than others, that makes more and more farmers actively practice IPM in field management and join IPM Farmer Groups. It will promote the development of Community IPM and sustainable agriculture by farmer.



Community IPM is one of the most important principles in sustainable agriculture development. Sustainable agriculture and Market-oriented agriculture bring different requirements to government, agricultural extension and farmers now. People are increasingly concerned with safety food, environmental protection, human health and sustainable development, IPM products are accepted by the market and brought more economic profits to farmers as well, Chinese central government has started Green Food Certificate and Food Security Project, policies of banning and restricting pesticide use on certain crops have been issued from central to local governments, farmers have met the benefits of community IPM and IPM products with the implementation of the programme.



Focusing on extension, linkage issues and mechanisms need to be addressed at several levels: At the farm level through farmer-participatory practice activities; at the national level through policies and management strategies that develop integrated system capable of adapting successful technology innovations at the field level to widespread practice in national program; and at the international level through donor support and technical assistance support that strengthens the systems to better address national (and regional) agricultural technology development. Evidence shows that integrating research, education and extension can improve the overall performance of agricultural technology systems. Internet in nowadays is one of effective ways to establish the linkages among research, education, extension and farmer groups for information exchange and technology application, it should be developed in agro-extension in the future. We are planning to initiate web-based IPM project with the support of Netherlands government.

Learning from the experiences from community IPM, it is effective and adaptable program for pest management, farmer capacity development, knowledge learning, information and experience exchanging in agriculture and rural areas, based on the demands of market and needs of farmer, clean and healthy agriculture products should be involved. **Community Integrated Pest and Product Management (C-IPPM)** will strongly support and promote development of sustainable, protection and improvement of environment and increase of farmer's income.