



**CHINA
COUNTRY ASSISTANCE EVALUATION
AGRICULTURE SECTOR**

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ACRONYMS

CAS	Country Assistance Strategy
ESW	Economic Sector Work
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IBRD	International Bank for Reconstruction and Development
IDA	International Development Agency
TVEs	Township and Village Enterprises
WTO	World Trade Organisation

CONTENTS

1.	Introduction	1
2.	Sectoral Changes	1
3.	Challenges for Rural China	5
	Protection for Agriculture and WTO Accession	5
	Constraints on Rural Enterprise Development	8
	Domestic Grain Marketing Reform	9
	Markets for Inputs into Agricultural Production	11
	Access to Markets	12
	Distribution of Income and Poverty	13
	Labour Market Developments	15
	Environmental Constraints	16
	Inter-governmental Financial Relations.....	17
	Review	17
4.	Bank Assistance Strategy	19
	Volumes.....	19
	Strategy.....	20
	Mix of Projects	21
	Ratings.....	21
	Current Themes and Benchmarks	22
	Benchmarks	24
5.	Issues in Implementation	26
	Rural Development.....	26
	The Retention of a Production Focus?	27
	Other Implementation Issues.....	27
	<i>Project evaluation too narrow.....</i>	27
	<i>Project risks in timing and personnel.....</i>	28
	<i>Institutional development lacking.....</i>	28
	<i>Cross-sectoral impacts add to complexities</i>	29
	<i>Design of strategy for influencing policy</i>	30
6.	Review and Further Questions	32

Tables

2.1	Growth rates of China's economy (1970-2000).....	2
2.2	Income and its distribution, rural and urban China (1980-1999)	2
2.3	Growth rates of main economic indicators of TVEs (1985-2000)	2
2.4	Main economic indicators of TVEs in China (1985-2000)	3
2.5	The changing structure of China's economy (1970-2000).....	4
3.1	Grain production and sale in China (1987-2000)	6
4.1	Summary of rating of agriculture projects by Exit FY	22

Figures

3.1	Nominal protection rates, selected agricultural products	7
4.1	Funds committed to lending for agriculture	19

References	34
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1. Introduction

1.1 This paper is prepared as a background document for the China Country Assistance Evaluation. While the brief refers to agriculture, the interpretation here is that the focus should be upon the people who tend to specialise in agricultural production. One of the questions is the degree to which their welfare and the economies of the regions in which they live grow as a result of projects with a focus on agricultural production.

1.2 The next section reviews some changes in the composition of agriculture. The following section identifies some challenges for rural China from which a suggestion of a list of priorities in rural development projects is derived. Some features of the Bank's assistance strategy in China are then noted and its impacts discussed, then some issues in its implementation identified.

2. Sectoral Changes

2.1 The mid 1980s marked a turning point in the growth of the agriculture sector in China (Table 2.1). By that time, the early returns to reform through the changes in prices paid to farmers and from the household responsibility system had been exhausted. From that time onwards, growth depended to a greater degree on the volumes of inputs available for production, on the mix of output, and on technological change. The main policy issues affecting the sector then became those affecting these parameters.

2.2 Per capita incomes grew rapidly over the whole period on average (Table 2.1) but faster in urban areas than in rural areas (Table 2.2).

2.3 The rural enterprise share of output began to expand about the same time that the catch-up factors in agricultural growth were exhausted (Table 2.3). By 1990, these enterprises accounted for over a fifth of the rural labour force and reaching a peak of 30 percent in 1996. Their share of total GDP rose to 31 percent in 2000 (Table 2.4).

Table 2.1: Growth rates of China's economy (1970-2000) (percent per year)

	Pre-reform	Reform Period		
	1970-78	1979-84	1985-95	1996-00
<u>Gross domestic product</u>	4.9	8.5	9.7	8.2
Agriculture	2.7	7.1	4.0	3.4
Industry	6.8	8.2	12.8	9.6
Service	Na	11.6	9.7	8.2
<u>Per capita GDP</u>	3.1	7.1	8.3	7.1

Note: Figures for GDP in 1970-78 are the growth rates of national income in real terms. Growth rates are computed using the regression method. Growth rates of individual and groups of commodities are based on volume of production data, while sectoral growth rates refer to value added in real terms.

Source: SSB, *Statistical Yearbook of China*, various issues; MOA, *Agricultural Yearbook of China*, various issues extracted from Anderson, Huang and Ianchovichina (2002)

Table 2.2: Income and its distribution, rural and urban China (1980-1999)

Year	Real per capita index		Gini coefficient	Real per capita net income (in 1999 yuan)		
	Rural	Poorest 20%		Rural	Urban	Urban/rural ratio
1980	100	100	0.24	616	2062	3.4
1985	189	165	0.26	1193	2605	2.2
1990	218	177	0.31	1380	3217	2.3
1995	272	193	0.33	1702	4713	2.8
1999	349	252	0.35	2210	5854	2.7

Note: The exchange rate was 8.28 yuan/US\$ in 1999.

Source: Anderson, Huang and Ianchovichina (2002)

2.4 The growth of township and village enterprises (TVEs) facilitated a very important change in the mix of income in farm households. The non-farm income share rose from 17 percent in 1980, to 26 percent in 1990 then 47 percent in 1999 (Anderson, Huang and Ianchovichina, 2002).

Table 2.3: Growth rates of main economic indicators of TVEs (1985-2000)

	1985-1990	1991-1995	1996-2000
Average growth rate of employment (%)	6.05	6.97	-0.01
Average growth rate of value-added (%)	NA*	27.27	11.25
Average growth rate of total profits (%)	16.80	25.62	10.67
Average growth rate of total wages (%)	19.44	16.48	8.09
Average growth rate of total value of exports (%)	49.53	44.31	8.17

Sources: Calculated from various issues of State Statistical Bureau, *China Statistical Yearbook*, China Statistics Press; various issues of the Editorial Board of the Almanac of China's Township and Village Enterprises, *The Almanac of China's Township and Village Enterprises*, China Agricultural Press.

Notes: The calculation of all values is based on 1990 constant RMB prices; * Data for value-added are available only after 1990 before which time only total output value was reported.

Table 2.4: Main economic indicators of TVEs in China (1985-2000)

	1985-1990 average	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total number (million units)	16.83	19.08	20.91	24.53	24.95	22.03	23.36	20.15	20.04	20.71	20.85
Total employment (million persons)	84.83	96.09	106.24	123.45	120.17	128.61	135.08	130.50	125.37	127.04	128.20
Share in rural labour force (%)	21.43	22.30	24.25	27.89	26.91	28.55	29.83	28.39	27.00	27.09	26.73
Total value-added (billion yuan)	NA*	287.46	404.77	634.72	698.11	796.27	889.68	1016.4	1096.1	1246.8	1355.3
Share in national GDP (%)	NA*	13.72	16.83	23.17	23.42	25.38	26.42	28.36	28.83	30.88	30.79
Total net profits (billion yuan)	45.68	70.32	95.27	155.85	164.31	177.37	195.78	213.45	229.00	270.16	293.59
Total wages (billion yuan)	82.36	126.22	158.84	185.73	191.84	239.02	269.29	285.56	308.86	330.54	352.36
Total value of exports (billion yuan)	33.87	64.79	108.45	173.84	217.07	294.34	302.69	340.42	338.58	388.00	432.68

Sources: Calculated from various issues of State Statistical Bureau, *China Statistical Yearbook*, China Statistics Press; various issues of the Editorial Board of the Almanac of China's Township and Village Enterprises, *The Almanac of China's Township and Village Enterprises*, China Agricultural Press.

Notes: All values are at 1990 constant RMB prices; * Data for value-added are available only after 1990. Before 1990 only total output value was reported.

2.5 Meanwhile, the rural output mix had also been changing (Table 2.5). Far more rapid growth occurred in those sectors in which prices were not regulated, such as oilseeds, fruit, meat and fish. Consequently the share of these products in agricultural output rose rapidly, while the share of crop output fell from 76 percent in 1980 to 56 percent in 2000. Table 2.5 provides additional information on the share of agriculture in total relative to other sectors in output and employment. Agriculture now accounts for 16 percent of GDP and 50 percent of employment. Since 1980, the share of the population which is rural has fallen from over 80 percent to 64 percent.

2.6 These shifts are driven by changes in demand, as well as by policy. Demand for direct consumption of grain has stagnated recently in rural areas and at an earlier time in urban areas. Demand for feed grain however continues to grow.

Table 2.5.:The changing structure of China's economy (1970-2000)
(percent, based on current prices)

	1970	1980	1985	1990	1995	2000
Share of GDP						
Agriculture	40	30	28	27	20	16
Industry	46	49	43	42	49	51
Services	13	21	29	31	31	33
Share of employment						
Agriculture	81	69	62	60	52	50
Industry	10	18	21	21	23	23
Services	9	13	17	19	25	27
Share of agricultural output						
Crops	82	76	69	65	58	56
Livestock	14	18	22	26	30	30
Fish	2	2	3	5	8	10
Forestry	2	4	5	4	3	4
Share of population that is rural	83	81	76	72	71	64

Source: State Statistical Bureau, *China Statistical Yearbook*, various issues; and *China Rural Statistical Yearbook*, various issues as presented in Huang and Rozelle (2002).

3. Challenges for Rural China

3.1 Shifts in the mix of agricultural output and in its shares in national output and employment are typical of the structural changes that occur with growth in an economy at China's stage of development. However, the process of change has been made more challenging by a number of conditions special to China and by China's policy choices to date, some of which themselves are now undergoing further reform. These conditions and policy choices are the basis of the challenges now ahead in agriculture and they provide a guide to the priorities in the Bank's program of assistance to China. Discussion of these issues begins with the most significant policy shift affecting agriculture since the original reforms, that is, China's accession to the WTO.

Protection for Agriculture and WTO Accession¹

3.2 At the earliest stages of industrialisation in China, in terms of resource flows, the gross fiscal contributions to the sector were more than outweighed by implicit taxation. This taxation took place through the regulation of prices for agricultural products, the neglect of public infrastructure and the transfer of funds through the financial system from agriculture to urban areas. The reform process however changed the role of markets in setting prices, so that 83 percent of all agriculture products were sold at market prices by 1999.

3.3 Grain marketing, a key crop in income and therefore political economy terms, has seen similar trends, but there has been a reversal in the last few years for which data are available.

3.4 Since late 1980s grain marketing in China has been liberalised at a slow rate. Farmers can sell their grains at free markets after fulfilling government quota procurement obligations and delivering above quota sales to the government at negotiated prices. Therefore, the share of grain not consumed on the farm which is sold in markets has been increasing since the late 1980s. The share of grain sold in markets reached the highest level in 1997 and 1998 at 54 percent and 56 percent respectively of the total grain sold in China (Table 3.1). But in 1998 the Chinese government implemented new grain marketing policies which allow only the state-owned grain enterprises to buy grains directly from farmers. Consequently, the share of grain sold in markets declined to 46 percent in 1999 and 2000.

3.5 In terms of the share output, the grain sold in markets accounted for less than 10 percent in the late 1980s and rose to a peak of 24 percent then fell to less than 20 percent in 1999 and 2000.

¹ This section draws on Anderson, Huang and Ianchovichina (2002).

Table 3.1: Grain production and sale in China (1987-2000)

	Total grain output (million tonnes)	Total grain sold (million tonnes)	Share of production sold (%)	Total government grain procurement (million tonnes)*	Grain sold in markets (million tonnes)	Share of grain sold in markets (%)	Proportion of output sold in markets (%)
1987	404.73	131.53	32.5	95.40	31.13	27.5	8.9
1988	394.08	121.23	30.8	92.97	28.26	23.3	7.2
1989	407.55	133.32	32.7	99.57	33.76	25.3	8.3
1990	446.24	142.89	32.0	123.65	19.24	13.5	4.3
1991	435.29	155.34	35.7	95.28	60.06	38.7	13.8
1992	442.66	146.08	33.0	94.81	51.26	35.1	11.6
1993	456.49	152.21	33.3	95.00	57.21	37.6	12.5
1994	445.10	151.33	34.0	89.60	61.73	40.8	13.9
1995	466.62	174.26	37.3	92.44	81.82	47.0	17.5
1996	504.54	179.23	35.5	97.70	81.53	45.5	16.2
1997	494.17	195.47	39.6	90.00	105.47	54.0	21.3
1998	512.30	219.48	42.8	96.00	123.48	56.3	24.1
1999	508.39	211.19	41.5	114.00	97.19	46.0	19.1
2000	462.18	194.11	42.0	103.86	90.25	46.5	19.5

*Note: Total government procurement includes government contract procurement at contract prices and government procurement in markets at negotiated prices (at protection prices from 1998 to 2000).

The above table is calculated from the following sources:

Various issues of State Statistical Bureau, *China Statistical Yearbook*, China Statistics Press;

Various issues of The Editorial Board of the Almanac of China's Domestic Trade, *Almanac of China's Domestic Trade*, Almanac of China's Domestic Trade Press;

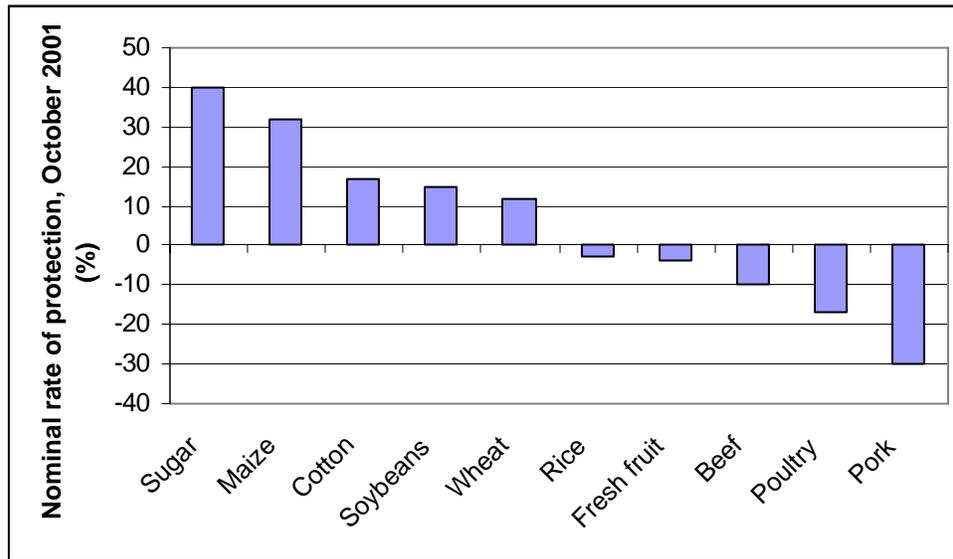
Office of Rural Fixed Survey Spots of the Policy Research Department of the Central Committee and the Chinese Communist Party and the Ministry of Agriculture (2001), *National Rural Social-Economic Survey Data Collection (1986-1999)*, China Agricultural Press;

Various issues of The Rural Social-Economic Survey Team of the State Statistical Bureau, *China Rural Statistical Yearbook*, China Statistics Press.

3.6 The relevant benchmark however is not the share sold outside the farm but the price of these products relative to those in world markets. Domestic marketing reforms alone without liberalisation could produce outcomes that continue to tax agriculture or which favour domestic producers, because of the denial of access to world markets.

3.7 Huang and Rozelle (2002) report that in October 2001 the following outcomes are observed in terms of the ratio of domestic to border prices (Figure 3.1):

Figure 3.1: Nominal protection rates, selected agricultural products



Source: Huang and Rozelle (2002)

The levels of and variations in the rates of nominal protection are significant, with extremes of +40 percent for sugar and -15 percent for meats.

3.8 Compared to average nominal rates in OECD countries, China provides a relatively high level of protection especially for maize but its protection for other crops is low relatively to that in developed economies. The protection rate for sugar is high in China but is even higher in the developed economies. The rates of protection for rice and meat are negative in China but positive and very high for rice and significant for meat in developed economies.

3.9 China's WTO commitments will have differential effects within agriculture, including some positive effects. After the phase-in period, the rates of protection will all lie in the range of 1 to 15 percent. Some producers will be affected by commodity specific policies, such as the supply of some part of output at a regulated price: the issues associated with domestic grain marketing policy are discussed in more detail in the next section.

3.10 China has also agreed to provide no subsidies for agricultural exports and to limit its domestic support for farmers to 8.5 percent of the value of production (this is lower than the limit of 10 percent applied in other developing economies). China will however retain tariff rate quotas on wheat, rice, maize, edible oils, sugar, cotton, and wool, although the quota volumes are to grow over the phase-in period from between 5 and 19 percent a year. China has further committed to remove state trading monopolies, except for tobacco. The state trading enterprises will compete with private firms.

3.11 The outcome for agriculture in the WTO accession depends not only on commitments made with respect to agriculture but also those in other sectors. Tariffs and quotas will be cut on industrial products, which will affect agriculture through both the prices paid for purchased agricultural inputs, as well as prices paid for factors of production used in agriculture. The net effect in agriculture depends on these intersectoral impacts, not just within agriculture but also between agriculture and the rest of the economy. The outcome also depends on China's ability to work within the WTO processes to achieve its own ambitions with respect to market access for its exports.

3.12 The WTO accession has occupied an important part of the agricultural policy debate in recent times, and has generated a substantial body of research. The magnitude of the output changes due to the WTO commitments, according to this research, is actually relatively small, especially when placed in the context of the structural changes that might be expected to occur normally with economic growth. On the other hand, the aggregate results conceal considerable regional variation in impacts within China which are discussed further below.

3.13 Some estimates of impacts challenge orthodox policy goals, in particular, there is a possibility that self-sufficiency in food, feed and fibre might fall somewhat. An important factor in this outcome is the growth in demand for meat as income grows following the trade reform. Exports of meat products and also textiles and clothing are expected to increase, the latter not only generating a demand for imported inputs, including feed and fibre, but also generating the foreign exchange with which to help pay for them and for other food imports. The answer to the question of 'who will feed China' is that China will feed itself through trade (Lu Feng, 1996).

3.14 However issues remain concerning WTO accession. Implicit in the assessments is the absence of impediments to the adjustments expected, including in markets for agricultural inputs which are discussed below.

3.15 A further question is the impact of accession on the distribution of income, also examined below.

Constraints on Rural Enterprise Development

3.16 The scope for rural enterprises to continue to contribute to rural growth is limited. Since the second half of the 1990s, the development of TVEs has slowed down significantly (Table 2.3). The total employment in TVEs at the year end of 2000 was 128.20 million, less than the peak year of 1996 when employment was 135.08 million (Table 2.4). In the period of 1996-2000, the average growth rate of TVEs' employment was -0.01 percent compared with those of 6.05 and 6.97 percent in the periods of 1985-1990 and 1991-1995. In terms of economic performance, the average growth rates of TVEs' value-added, total profits, total wages and total value of exports also declined substantially in the period of 1996-2000.

3.17 Despite the slowdown, TVEs are still an important contributor to economic growth in China's economy. At the year end of 2000, TVEs employed 27 percent of China's total rural labour force and created 31 percent of China's GDP. However, compared with previous years, the momentum of TVEs in contributing to economic growth in rural China has substantially reduced since the late 1990s. The main challenge to the rural enterprises comes from the integration of markets in China. Even in markets for labour intensive manufactured products, the rural enterprises now face more and more competition.

3.18 Constraints to their further development include the technology embodied in the equipment which they use, their ownership structure and consequently the lack of financial constraints on their operations, leading to inefficiencies and a waste of resources. Some assessments are that these firms are now more like state-owned enterprises.

3.19 The challenges facing the TVEs were recognised in 1999 by Nyberg and Rozelle, although it took a little longer for these issues to become more apparent in project design. By 2002, performance assessment reports were remarking that the contribution of rural industry may be 'reaching its limit'.

3.20 The focus of attention is shifting to the genuinely privately-owned enterprises and their contribution to rural growth (Song, 2002). The focus of the policy discussion has turned to defining property rights, putting SOEs on the same terms in the market place, providing rights to these enterprises to engage in international trade and removing other rules that impede their investment choices.

3.21 The challenges to the rural enterprise sector highlight a number of policy issues. The decline in their contribution makes policy on rural migration an even more important issue, for example. Other means through which farm households can interact with the non-farm sector also become relatively more important, including the extent of market integration, which is in part dependent on infrastructure and the provision of services. Policy in that respect also matters.

Domestic Grain Marketing Reform

3.22 Grain production and the level of self-sufficiency in grain has always been an important driver of policy in agriculture. Chinese policy makers have been prepared to incur substantial costs in order to achieve their own targets of food supply security. However, that policy is now under pressure for change, as a result of a range of economic forces, combined with the results of analytical work on its impacts and on alternative policy packages.

3.23 Policy choices in this area have important consequences, since the crop sector continues to dominate agriculture – even though its share is down 20 points since 1980, it still accounts for 56 percent of agricultural output (Table 2.5).

3.24 There were two recent and important changes in grain marketing policy. The first was in early 1998 when China's grain marketing policy was changed with the implementation of the "three policies and one reform". Under this grain marketing policy package, the state-owned grain enterprises were granted a monopoly position in grain purchase directly from farmers and they were requested to purchase farmers' surplus grains at a protection price and without limit.

3.25 Some impact of this share on the extent to which grain was sold in markets was noted earlier. However, the general assessment is that these policies were not well implemented. The main reasons include heavy financial burdens, lack of finance, lack of initiatives from the state-owned grain purchase and storage enterprises who were driven by self interest, and lack of an effective supervisory mechanism of the government.

3.26 At the beginning of 2001 the Central Committee of the Chinese Communist Party approved a new round of reform, first in Zhejiang and then in the other main grain sale provinces. The reform experiment has accelerated grain market development, both between and within provinces.

3.27 In the second half of 2001, the new grain marketing reform policy was implemented in the coastal economically developed provinces, including Jiangsu, Shanghai, Guangdong, Fujian, Hainan, Beijing and Tianjin. The national grain working conference held in the end of August of 2001 further clarified the basic thinking on the promotion of grain marketisation reform, which was "freeing sale areas, protecting production areas, provincial governor responsibility, and strengthening management". The expectation is that this approach will now also spread to grain export areas.

3.28 A contributing factor to the lack of stability in grain policy is that it has usually aimed to meet a number of targets. These include the security of the supply of grain, and the security of levels of incomes for farmers. Another target is the resolution of fiscal burdens. Policy makers have also given attention to consumer interests, and to the mix of grain output. They are concerned about the effect of changes in grain production on the output of other agricultural products, such as fruit and vegetables, products in which China has international competitiveness. Policy makers are also interested in the efficiency of the grain marketing system.

3.29 Depending on the policy used, these goals are sometimes in conflict with each other. For example, using the pricing system to generate a higher level of farmer income can reduce the efficiency of the distribution system and generate fiscal burdens or stock levels which cannot be sustained. Trying to achieve food security can come at the cost of the right signals about the mix of outputs to match changing consumer preferences. It is difficult to keep all these targets in balance, and sometimes circumstances require radical shifts in the policy parameters.

3.30 A further issue is that the weights on the targets of grain marketing policy appear to be changing. There is now more interest in farmer income security rather than supply security defined in terms of the volume of grain. There is more interest in getting the price signals right, with respect to types and qualities. It is increasingly important to

build an efficient and adaptable internal marketing system. And there is more interest in efficiency in marketing, in order to narrow the margins in the system and share the benefits of those efficiency gains with farmers.

3.31 While the drivers of policy change include a number of economic factors, they are not sufficient to produce good policy choices (as evident in the 1998 reforms). Good choices require previous work on options and their impacts, as well as commentary on the feasibility of implementation. In this context, there is considerable value in the sharing policy making experience and analysis in the resolution of the Chinese policy maker's dilemma of chasing too many targets with a limited number of instruments. An analysis of the issues in the implementation of policy, rather than simply identification of issues, has been a theme of the Bank's role in China, and an area where its ESW program can make an important contribution.

Markets for Inputs into Agricultural Production

3.32 Markets for farm inputs and other services also need to be added to the list of priority issues, particularly in the context of integrating the domestic and international markets. The costs of adjustment required to meet WTO commitments and the resistance to reform will be less if those markets are working efficiently.

3.33 Some examples of impediments to be tackled are evident in the following:

- The operation of systems for transferring the rights to use land will be important to reach the best scale of production in different parts of China, and to respond to competition from international markets. Research on this issue suggests that there are significant gains from plot consolidation, for example. Clarification of property rights in land is also critical to the growth of rural finance systems.
- Another important issue will be the opportunities for farmers to use their own time in other occupations and perhaps if necessary hire in help for farm work in peak periods. In other words, the operation of labour markets in rural areas will be a topic of increasing interest.
- The provision of new technology in a number of areas will be important. There has been a lot of attention given in China to the development of new production technology and its adoption. Also important will be technology in the distribution, packaging and processing systems. However the presence of foreign investors will be important for the transfer of that technology and so issues in its development and diffusion in China may be less serious than those for production technology. There is already evidence of wide-spread use of complex contracting arrangements between growers and processors.
- The availability of finance for farmers will be a critical issue. The level of purchased inputs on farms will continue to rise. The consolidation of land will create opportunities for the use of new methods of production, which involve the purchase

of machinery. New products and new technologies can be adopted. But all these changes require access to finance.

- Another longer run set of issues relates to the environment and to water in particular. Much agricultural production uses a lot of water, yet the demands for other urban (both household and industrial) uses are increasing. It is therefore critical to maintain a focus on the efficient use of water. The reason is not just the impact of a rising opportunity cost of water on agricultural production, but also because there is scope to develop new agricultural technologies which economise on the increasingly scarce water input.
- Regional variations will matter more in future. An unpublished World Bank report in 2001 observes that extension programs tend to be focussed too much on grain production questions and not enough on the production of crops that suit local comparative advantage. The lack of funds in local programs is also noted, which also limits the scope to adapt these programs to local demands.

Access to Markets

3.34 Marketing services are a key determinant of agricultural income growth, in particular, the provision of a package of transport and warehousing activities, including access to value adding services. The World Bank has undertaken many projects that have added to the physical infrastructure of the transport system, through programs of road building for example. But also important is the capacity to organise services on the physical infrastructure, especially the provision of logistics services.

3.35 Under reasonable assumptions about current costs and before the implementation of a reform program that affects the extent of market integration, the return to labour in the interior province could reach at most 43 percent of the wage in coastal provinces and 33 percent of that in world markets.

3.36 A more efficient logistics sector will benefit people living in any relatively remote area in a number of ways. Their terms of trade will improve and they will benefit from higher levels of competition in local markets. The impact of reform, which reduces logistics costs, also generates extensive real gains: the impacts on real incomes are greater than those of the removal of a tax, for example, the impact of which includes transfer effects—when logistics costs are reduced resources are saved.²

3.37 Being landlocked raises transport costs by around 50 percent. Improvements in infrastructure (based on an index of the extent of the road, rail and telecommunications network) can lead to significant reductions in these costs. At an elasticity of -2.5 (the response of trade to reductions in transport costs) reductions in transport costs therefore lead to significant increases in trade orientation (Limao and Venables, 2001).³

² The rectangle effects are gains, not just transfers, in other words: see Deardorff (2001).

³ These studies referred to international market integration but the same analysis applies to internal market integration in China.

3.38 A number of impediments currently exist to the development of competitive markets in these services. The benefits of China's commitments to reform of logistics services are significant, perhaps especially so in agriculture. The extent of the fall in logistics costs could be 10-14 percent of wholesale prices in China which would have a significant effect on value added (Radelet and Sachs, 1998, Luo and Findlay, 2002).

3.39 Removing impediments to the provision of multi-modal transport services is important, since they are a critical component of the provision of modern logistics services. Constraints to the provision of these services are a result of the division of responsibilities for various modes of transports between Ministries and administrative bodies at central and local levels of government.

3.40 Even though the costs of moving goods between markets may be high, those markets could still be integrated in the sense that their prices move together. Domestic markets within China are relatively highly integrated in these terms of price transmission.

3.41 Markets in China, especially those for maize and soybeans, are now remarkably integrated (Huang and Rozelle, 2002).⁴ In the late 1990s, examining the co-movement of prices between pairs of markets in their sample, they found a large increase in the number of integrated markets. In the case of maize, for example, in 89 percent of the cases, prices in one market move at the same time as in another. This is up from only 28 percent of the time in the early 1990s. The number of pairs of integrated markets for soybeans, japonica and indica rice show similar increases.

Distribution of Income and Poverty

3.42 There is considerable anxiety and debate in China among policy makers about the effects of reform on the relative levels of income in rural and urban China. There is a large gap in real income levels—the urban rural ratio in 1999 was 2.7. This ratio increased over the 1990s (in 1990 the ratio was 2.3) but had fallen significantly during the early period of the reforms in agriculture (the ratio was 3.4 in 1980).⁵

3.43 A number of factors contribute to the reversal of the earlier decline in the ratio of urban to rural incomes. These include the regulation of prices of agricultural products which were discussed above, as well as the extent of public investment in agriculture and the resource transfers out of agriculture into other sectors. A key determinant of rural income is the ability to earn income outside agriculture, either by continuing to work in rural areas, or through the temporary movement of labour.

3.44 The issue has also been re-visited in the context of China's WTO accession.⁶ In some simulations, economic inequality improves among non-farm households but

⁴ Rising integration does not imply that marketing margins cannot be reduced even further. Integration is consistent with a high but not prohibitive margin.

⁵ More sophisticated indicators of changes in equality are available but the focus here is restricted to the ratios of average incomes, since they dominate the public discussion.

⁶ Frameworks for considering its impact are presented by Carter and Estrin (2002) and Anderson, Huang and Ianchovichina (2002).

worsens between farm and non-farm households as a result of accession. This result is the net effect of a series of changes in product prices and input prices (in the context of impediments to out-migration from agriculture) so that the real wages of unskilled farm workers fall and the return to farm land also falls. At the same time, the real wages of unskilled off-farm workers rises, real wages of skilled workers remain about the same and the returns to non-farm capital increase. Farm households who earn enough of their income off the farm could gain from accession, but overall, ‘the gap between farm and non-farm incomes even within rural areas, and certainly between rural and urban areas, looks set to rise slightly unless remedial action is forthcoming’ (Anderson, Huang and Ianchovichina, 2002). Suggestions for consideration of such action includes

- ❑ investments in rural human capital,
- ❑ research and development and infrastructure,
- ❑ deregulation of grain markets and
- ❑ ways to free the mobility of rural labour.

3.45 This analysis refers to the redistribution of income as a result of WTO accession, that is, its impact on relative income levels. Also of interest is the impact of policy choices on the number and location of people living in absolute poverty.

3.46 Poverty is no longer concentrated in geographic terms and the system of targeting particular counties in poverty reduction programs no longer works⁷. The process by which benefits distribute throughout the area appears to be insufficient to deal with the poverty problems in those areas. Households living in poverty continue to be found in counties which are rich on average. As World Bank (2001) points out some of the difficulties of the county-based targeting system. It is noted that while the centre provides funds to the targeted counties, local governments have strong incentives to spend those funds “to cope with pressing budgetary problems or to promote rural industry”. The impact of the poverty funds is thereby ‘diluted’. The report also stresses that about half the poor live outside the designated poor counties.

3.47 The Bank’s project experience also demonstrates the difficulty of getting this right, and the risk of capture or ‘cornering’ of project benefits by those already earning relatively high incomes. If IBRD terms are unsuitable for projects in poor areas, then the opportunities for the Bank to support poverty program objectives through lending is limited.

3.48 Mobility of people within China means that poor households are also mobile. Poverty programs to be effective have to take account of these features. The priority is therefore to shift to household targeting. Doing so under the current fiscal structures however is difficult. It also involves programs which run across sectors.

⁷ The Government has commented that the system does work. “The fact is that the Poverty Reduction Office under the State Council is greatly strengthened from 2003, and the state-level poor counties are still getting (even more) funds from the central government.” (Comments transmitted by Ministry of Finance).

3.49 The experience in China in the 1990s is that the most effective way of helping the absolute poor is “through an integrated set of interventions in the form of a multiyear project” (World Bank, 2001, p. xix). Examples of a relevant set of projects include

- ❑ programs to increase upland agricultural productivity (field and tree crops, and livestock),
- ❑ labour intensive construction of local rural infrastructure,
- ❑ introduction of voluntary labour mobility,
- ❑ poverty monitoring and
- ❑ rural enterprise development.

3.50 The World Bank (2001) also recommends that China consider blending sources of funds together for these projects. It is noted, however, that projects of this type are relatively difficult to design and implement.

Labour Market Developments

3.51 Migration out of rural areas is constrained by the household registration (hukou) system. This system was a key feature of the systems of resource transfers that took place between rural and urban areas in the pre-reform period in China.

3.52 Under this system, which operated until 1986, rural residents did not have access to food available from the official distribution system, or to publicly provided services such as housing, education and medical care, and they are employed under less secure contracts. As a result, there was not an observable long term labour movement outside the publicly sanctioned system.

3.53 There has however been a substantial movement of labour out of rural areas. The absolute number of such workers is large even though they are only a small part of the rural workforce. Mobility has been prompted by the differences in wage rates, but made possible by the development of markets in which people can offer their labour services or buy products and other services.

3.54 The migrants have a number of characteristics. They tend to be individuals and not families. They may relocate for only short periods (returning home when the farm work becomes busier) and they might be away from home for only half the year. Migrants are not usually the best educated people in their home locations. People in rural areas with higher levels of education take non-agricultural jobs instead of migrating. Migrants are also not the poorest people in their home locations. A significant number of migrants (maybe half) stay within the same province. Other might travel long distances, making decisions to do so based on information provided by groups of migrants from the same origins who have gathered together in their urban destinations (nearly all the information—estimated at 80 percent—used by migrants comes from relatives and members of the same village: Cai, 2001, p. 4).

3.55 For a number of reasons it would appear that rural migrants are discriminated against in their urban employment. Wage rates one third lower than wages paid to urban

residents with apparently the same skills are claimed. Some contributors include the restriction in place on the types of jobs in which rural residents can be employed – some jobs are reserved for urban residents. Rural residents might be offered lower rates of pay in those jobs: this lower rate could however reflect differences in skills, even those related to working experience in the urban environment. Migrants might also not be promoted because the risk they might be forced out of the urban area in which they work. Presumably also as a result they would receive less training than an urban worker with similar skills.

3.56 The workers who move still gain compare to those who stay behind, that is, their earnings in the urban area exceed those they might have received had they not moved. Most of their earnings are sent back to their home base (the average is reported to be 2000 yuan over the course of a visit), and their families therefore also have more resources, in addition to the effect of having a large volume of land per worker than might otherwise have been the case.⁸ This effect in turn puts pressure on the mechanisms used for land management in rural villages.

3.57 The hukou policy is evolving gradually due economic factors where pressures are transmitted through local policy systems. A number of small towns have been opened up to wider entry. Many large cities in the coastal areas are also more open. Local policy makers in ‘self-financed’ types of cities tend to welcome migrants who contribute to economic growth. These tend to be ‘lower ranked’ cities, for example, at prefectural or county level. Some cities have replaced the hukou with migration schemes in which migrants who meet selection criteria are welcome to settle (Cai, Du and Wang, 2002).

Environmental Constraints

3.58 A familiar assessment is that ‘growth has increased China’s environmental problems’. Both research and Bank experience has identified significant environmental constraints to agricultural production, including the impact of water quality problems on aquaculture, the effects of deforestation on the rate of desertification, the impact of coal burning on the urban environment, and soil quality problems in other agricultural production. These issues deserve a high priority in the lending program. They are difficult to solve because of the contradiction between their origins and impacts, and the fiscal structures in China, including the allocation of responsibilities between levels of government.

3.59 Lele, Nyberg and Goldberg comment on some of the special environmental issues in China, including the high level of air pollution, associated with coal use, and evident in the high rates of pulmonary disease. They refer to the pollution of water sources associated with industrialisation and its impact on the cost of provision of clean drinking water.

⁸ It is not clear how income transferred by rural residents working in urban areas is treated in either rural household income surveys or assessments of poverty in urban areas.

3.60 Water is a special issue in China (and the subject of a separate paper for this CAE). The Bank reports an assessment that the country faces an acute shortage of water and that the distribution of water resources within China is out of balance with the distribution of land and population. The quality of surface water is also falling following industrial development and urbanisation combined with the effects of agricultural run-off. Inefficient management of water resources has been highlighted. Other sources quote the costs of environmental issues at 3-8 percent of GDP.

Inter-governmental Financial Relations⁹

3.61 The resolution of budgetary problems is the most significant challenge for regional development in China. The fiscal situation has important impacts on the ways that Bank projects in China are developed and managed.

3.62 The size of the government budget in China is small (about 15 percent of GDP) and that of the central government is even smaller (8 percent). So-called “off-budget” spending is large (estimated to be 20 percent of GDP). Also there is a lack of autonomy in the official budgeting processes at local level. A large share of extra income collections is taken back by the centre. Local governments have limited discretion about expenditures and the tasks assigned to them are large and out of line with international practice. The incentives are to divert resources out of budget income to extra-budgetary uses. This situation not only limits the capacity to arrange inter-regional transfers of funds, it also leaves some sectors which are not likely to provide commercial returns (such as education and health) under-funded. The same point applies to some infrastructure investments.

3.63 Regional disparities in fiscal spending and service provision are already large and have grown rapidly. Existing disparities have been exacerbated as a result of these structures. Spending at sub-national level is not efficient. This problem includes the inability to implement a coordinated national strategy. A better set of assignments of revenue and expenditure is required.

Review

3.64 This material suggests that there is a series of key issues in the agricultural sector which are now the focus of policy makers and which will drive policy development. Policy change responds to the pressures associated with these sorts of developments, as the experience of that on two key and highly sensitive areas in China - grain and the household registration system - illustrates. Policy in these areas has not been fixed. But a body of knowledge about policy options and their impacts is critical for policy makers to choose and implement policies which promote growth and reduce poverty.

3.65 The series of key issues listed so far will also have an influence on views on priorities in China for Bank assistance, or at least, they suggest areas where returns to assistance will be relatively high.

⁹ This section is based on World Bank (2002).

- A focus on product quality to meet shifting consumer tastes, rather than volume, and, sooner rather than later, an explicit shift in the focus of public discussion of food security to reflect this change.
- Less reliance on collectively owned township and village enterprises and more focus on the genuinely privately-owned enterprises.
- More interest in trade in food, not only food imports but also food exports and the access to markets for exports, again leading a different perspective on food security, including an appreciation of product values and input costs in terms of opportunities in world markets, and in that context a reappraisal of strategy with respect to the WTO Doha Round
- Continuing pressure for reform of domestic grain marketing systems, designed at least to capture more of the gains from the internal trade in grain according to comparative advantage and to facilitate adjustment to WTO commitments in the grain sector.
- Removing impediments evident in markets for farm inputs and services that restrict the ability of farmers to respond to these opportunities or to adjust production the face of new competition
- Attention to reform of markets for finance in the countryside.
- Associated with these developments, interest in the construction of hard and soft agricultural product market infrastructure, and the availability of associated marketing services especially logistics, in the context of a recognition of the contribution of trade to income growth, particularly in poor areas.
- Continuing concern with the relative income levels of rural and urban residents, which supports not only a focus on the issues above but also on the re-design of policy targeted on to achieve increases in income in poor areas, including the delivery of services to a target level of quality.
- An interest in accelerating the removal of impediments to internal migration, which will implications for the management of markets for agricultural inputs, especially land, and for the management of poverty programs.
- Greater focus on environmental constraints to sustainable production in agriculture than has previously been evident.
- Continuing effort to reform the incentives in the national public finance systems which appear to be widening and not narrowing disparities.

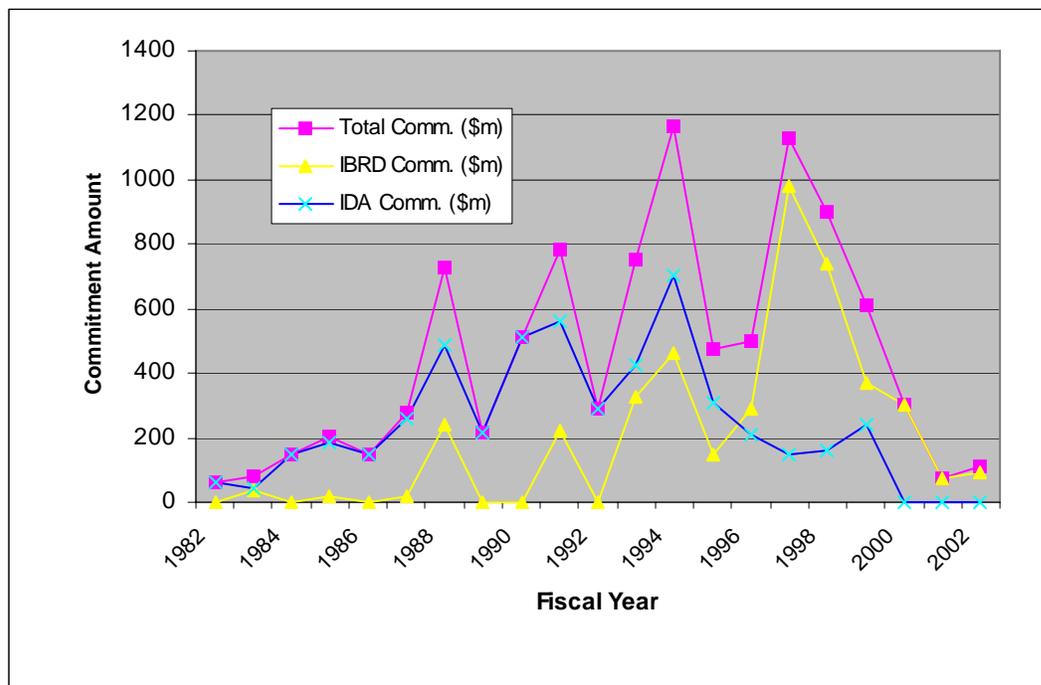
4. Bank Assistance Strategy

Volumes

4.1 Over the 1990s, the Bank's IBRD/IDA lending program in China reached a peak of over US\$3b a year in the period 1993 to 1995, then fell to less than US\$1b in 2001 at which level it is projected to continue. IDA lending fell to zero in 2000, since China became ineligible on the grounds of its credit worthiness.

4.2 The rural share of lending has fluctuated between 22 percent and 33 percent of the total. In the period 2002 to 2004, it is expected to be 24 percent. The flow of funds to agricultural projects is shown in Figure 4.1.

Figure 4.1: Funds committed to lending for agriculture



4.3 The mix of IBRD and IDA lending to agriculture has changed dramatically over these two decades. From 1982 to 1992, the total commitment was \$3.451b of which \$2.916b (or 85 percent) was IDA. From 1992 to 2002, the total commitment was \$5.928 of which IDA was \$2.202b (or 37 percent).¹⁰

4.4 The amount of the total lending program is large in absolute terms but small relative to capital inflow into China. In 2001, foreign direct investment inflow was nearly \$47b. The Bank's assistance strategy in 1997 made the case for continuing to lend to China. It observed that FDI flows had tended to exaggerate regional disparities and that private flows do not meet the need for public investment in essential sectors. Priorities in the Bank's program, which at that time it listed as poverty alleviation, health,

¹⁰ In this period, China also received \$36m in grants.

education, natural resource management, the environment and urban development, had a low priority in FDI flows. Overall:

Bank projects pilot innovative approaches to areas of need, catalyze repeater projects that demonstrate sound policy principles, and help to build institutions necessary to complete structural reform.

Strategy

4.5 The Bank's approach to agriculture in the 1995 assistance strategy was to be selective. It would concentrate on projects in locations in lagging provinces, would aim to upgrade marginal agricultural land, focus on water management, support TVE development, contribute to the development of bulk logistics with a focus on grain. There was also an interest in technical foundation for the development of livestock production into the 21st century.

4.6 The assistance strategy for 1997 had some similar themes including better utilisation of marginal land, and a focus on water schemes (but with a greater emphasis on institutional reform and user participation). Within agriculture itself the targets put more emphasis on the TVEs and the non-state sector: TVEs were included in mention of income generating schemes in lagging provinces and there were to be project to encourage investment by the non-state sector in agribusiness and agroprocessing. The logistics of linking then isolated markets with urban markets and those overseas was also stressed. Achieving an adequate level of technology for animal production was also an interest.

4.7 In a 1998 strategy update, the motivations for attention to agriculture were more clearly related to food security and poverty reduction, and reversing trends in inequality. Regarded as a critical contributor to these goals was 'moving labor out of agriculture'. It was also noted that despite recent good harvests, 'food security' had still not been achieved. The response was not a focus on trade but rather 'the key' was 'high productivity per unit of land' which would require 'large investments in irrigation and land improvement', as well as improvements in marketing and distribution. The update referred to the government's commitment to continue with grain marketing reform at that time, and also noted that domestic grain prices were close to international levels. Resource-related topics were on the agenda, with mention of soil conservation, investments in water projects and planting of forests.

4.8 The 1995 assistance strategy showed how the role of the Bank had shifted over time. In the earlier 1980s, China valued the Bank's expertise and provision of relatively inexpensive resources. As China opened up further, it developed its own sources of funds and ideas about policy issues. Identification of policy issues was no longer sufficient. China now expected the Bank, through its studies and projects, to contribute to ways in which policy changes should be implemented. The interest in China in Bank support also narrowed to a smaller number of sectors.

Mix of Projects

4.9 The geographic focus of Bank lending has shifted from coastal areas to inland areas: in the forthcoming two-year period, the inland areas will account for 76 percent of the total flow of funds.

4.10 Bank lending in China is project lending. There is very little use of adjustment loans which are more evident in other countries. The only adjustment loan in China was for agriculture in the 1980s. China has no interest in adjustment lending (or policy-based lending) and the Bank would find it hard to justify adjustment lending since it normally finances foreign exchange deficits.

4.11 There are also interesting differences in China's experience compared to the rest of the Bank's regions in terms of other uses of resources.

4.12 The expenditure on economic and sectoral work in China is relatively low: over the period 1998 to 2002, the ratio of this spending to total lending was about half that of the Bank average. Whereas in that period China accounted for about 7.1 percent of total IBRD/IDA lending, the ESW spending on China was about 3.4 percent of the total. Total spending on ESW was \$9m over 1998 to 2002 (\$11m over 1993-1997).

4.13 A review of natural resource projects over the decade of the 1990s made the same point. It divided these projects into three groups¹¹—those which created new, which expanded or which altered natural resource systems, those which change the operational practices involved and those which changed the structural elements that influenced the way natural resources were managed or decisions were made about their use. The third group were called Type C projects. In total this group accounted for about 23 percent of the value of all the Bank's natural resource projects. If China is excluded Type C projects account for 36 percent of the value of projects. In China, they account for 17 percent of the value of projects. The bias in China is much more towards the first type of project which accounted for 75 percent of the total value. Examples were the Xiaolangdi Dam, the Loess Plateau Projects, and the area development projects. Some projects were described as including some 'innovative NRM investments'. The overall conclusion was however that the overall portfolio in China was 'not well balanced' with too little emphasis on type C projects. This was important since China faced 'increasingly serious NRM issues that threaten long-term growth'. Obstacles to a rebalancing which were identified were a) the government's desire to spread the benefits of a limited number of projects among provinces, b) the Bank's preference for economies of scale in lending and c) the limited repayment capacity of individual provinces.

Ratings

4.14 Ratings of agriculture sector projects are summarised in Table 4.1 (more detail is available in the table in the appendix). The proportion showing a satisfactory outcome

¹¹ This paragraph is based on material in Crooks, Magrath, Morgan and Shen (1999).

has risen: the level was already high in the decade up to 1992 and it rose to 94 percent by funds committed in the decade to 2002.

4.15 An issue evident in the table is the relatively low proportion projects which lead to substantial institutional development. This share was only just over 20 percent in the 1980s, and although now closer to 60 percent, the low rate remains an issue in the context of the overall goals of the program to ‘help build institutions to complete structural reform’.

Table 4.1: Summary of rating of agriculture projects by Exit FY

	1982-2002				1982-1992				1993-2002			
	By # of Projects		By Comm.		By # of Projects		By Comm.		By # of Projects		By Comm.	
	#	%	\$m	%	#	%	\$m	%	#	%	\$m	%
Satisfactory Outcome	29	91%	4177	93%	8	89%	694	87%	21	91%	3482	94%
Likely Sustainability	25	78%	3514	78%	6	67%	607	76%	19	83%	2907	79%
Substantial Institutional Development	18	56%	2503	56%	4	44%	165	21%	14	61%	2338	63%

Source: OED

Current Themes and Benchmarks

4.16 The CAS for 2002 (to cover the period 2003-2005) reports a number of goals relevant to agriculture and people who work in the sector.¹² One broad goal is to ‘increase employment and productivity off and on the farm’ the elements of which are include projects to

- spur off-farm job creation
- enhance agricultural productivity
- promote environmentally sustainable production in Western areas

4.17 Contributors to agricultural productivity growth were to include changes in the mix of output, strengthening land property rights, investment in irrigation, institutional reform for water resource management, revitalise the research and extension programs, reform the systems of fees and taxes in agriculture, and encourage more private sector participation.

4.18 Within this set of government actions, the Bank Group strategy includes supporting agricultural reform based on market criteria, promoting the development of land use markets, building key reforms into water resource projects, a focus on intellectual property rights, in order to encourage transnational firm participation in the

¹² The format adopted in this document adds to the transparency of the program, using headings including development objective, strategy/action, progress benchmark and Bank Group Strategy.

provision of agricultural inputs, and 'promote a conducive policy framework to transform TVE ownership (collective) into more efficient private/corporate structures'. Also listed is an objective to 'remove constraints to migration'.

4.19 Also relevant is an objective to 'strengthen transport links within and to lagging regions' which includes reference to road transport (the road infrastructure down to village level), logistical services and the railway system. The Bank Group strategy includes the provision of finance, help with planning and the promotion of private provision of construction and transport services.

4.20 The key themes in the Bank's program related to rural development in previous years have been the transition to a market economy, assistance to disadvantaged people and regions, the rural-urban transition, and sustainable development. The bulk of the programs have been directed to assist rural and lagging regions.

4.21 Within this package and especially relevant to agriculture have been projects to support technology transfer and to increase production (including activities such as commercialisation of the ABC, afforestation projects, irrigation rehabilitation and state farm commercialisation).

4.22 More recently, there has been a shift from production quantity to quality, marketability and sustainability. In addition, attention to poverty alleviation has increased and there has been a focus on building institutions for natural resource management.

4.23 In the forthcoming two years, priorities will shift further from any direct production interest to poverty alleviation, natural resource management with special attention to water, and the institutions of the agricultural research system. There is now a greater weight on sustainability of initiatives in environmental terms. An overall interest in the transition to a market economy remains.

4.24 The change in mix within the portfolio of projects is important. It is consistent with the new package of priorities identified above. However projects with this new orientation face some critical challenges of implementation which are reviewed below.

4.25 The agricultural sector is also affected by work in other areas, for example by projects in the transport sector where there has been a focus on highways, inland container terminals, inland waterways and a National Railways Project: the last in this list is focussed on the financing of infrastructure in western China. Indirectly, agriculture is also affected by projects in the urban sector, and thereby the capacity to sustain a higher rate of urbanisation, but in the following sections the focus is on projects which have a direct impact on agriculture.

Benchmarks

4.26 The assistance strategy in 1997 benchmarks for monitoring the impact of agriculture sector projects include

- resource savings, eg reductions in water and fertiliser use per hectare in grain production in Northern China,
- reductions in marketing margins,
- the extent of the use of markets
- reductions in fiscal subsidies
- proximity of the domestic grain price to the international price

4.27 In another section of the CAS, there is reference to development of upland agricultural technology and an increase in the resettlement rate.

4.28 Data were presented earlier on the extent of use of markets, where the main issues relate to the grain marketing system. It was estimated that the proportion of output sold in markets has doubled over the 1990s. Even though the share remains low, as noted earlier the critical issue is whether the price on which decisions are based at the margin is the market price. A more relevant benchmark is therefore the proximity of domestic to international prices. The remaining distortions were reviewed earlier.

4.29 Data on the other indicators is difficult to obtain. For example, the separation of direct subsidies from government funding for agricultural infrastructure or research is difficult in the budget data. In other cases, where some data are available, the indicators appear to be moving in the opposite direction to that desired.

- One indicator of marketing margins is the ratio of farm gate to retail prices. Data available however show that this ratio fell over the period from 1996 to 2000, although relatively stable since 1998. However these sorts of comparisons are complicated by changes in quality at the retail end of the chain.
- Some data are available on resource use in North China, not for water but for fertiliser. These data indicate rapidly rising fertiliser use in that region. Combining data for all the Northern provinces, available in the China Statistical Yearbook, then the indicator of kg/hectare (in terms of effective elements) has increased from 160 in 1990 to 263 in 2000. Over this period the Northern provinces have caught up to those in the rest of China. However these data apply to all crops and the data for grain production alone are not available on the same terms.

4.30 Benchmarks nominated for the forthcoming period include

- The ratio of 'higher-value' agricultural products compared to 'standard grain crops'
- Participation in land use markets
- Adoption of reforms for water management

- Investment in research and extension
- Abolition of fees and agricultural taxes imposed on farmers in the next few years
- Increased proportion of agricultural commodities marketed by non-State entities
- Increase in FDI in agriculture
- More TVEs under private ownership
- “Gradually remove” constraints to migration and enterprises employing migrants
- Rural credit cooperatives to provide the majority of financial services in rural areas

4.31 This is a far more wide ranging set of benchmarks than in the last full CAS. But as in 1997, no base line data are provided and no methodology is specified for the monitoring and reporting processes.

4.32 Furthermore the choices of benchmarks are debatable. One example is the goal set to achieve a particular crop mix. A more important benchmark is the application of market prices in decision making and the removal of distortions between domestic and international prices.

4.33 The basis of some other benchmarks is not clear – why should RCCs provide the ‘majority’ of financial services? More important is to remove existing impediments to RCC operations.

4.34 Other benchmarks are not easy to monitor – how would progress towards the migration goal be assessed? As in earlier comments, a more valuable policy target is the removal of distortions rather than quantity goals with respect to impacts.

4.35 If the issues of interpretation are resolved, then a specific benchmark could be a useful tool for assessment of the impact of the CAS. The question could be asked of how has that benchmark changed in the last 5 years, what proportion of the change might be attributed to Bank input (through the provision of advice and its implementation) so what is the value of that input (once values can be attributed to the benchmarks, some of which are resource savings and others of which imply a reduction in distortions). Alternatively, the estimated change in economic welfare could be compared to the investment associated with Bank inputs.

4.36 At least, if the Bank nominates (and justifies) specific benchmarks, then base line data should be provided, a methodology for monitoring should be developed and subsequent reporting should include some assessment of the previous performance according to the benchmarks nominated.

5. Issues in Implementation

Rural Development

5.1 A key issue to be resolved in the China program is whether the focus in rural areas is on the economic development of the region or on agricultural development. The former requires a focus on raising the returns to labour, from whatever source of employment. The latter leads to a greater weight on returns to land, as a result of the application of investment funds to provide complementary inputs, such as water or other inputs.

5.2 The focus on agricultural production emerges from the observation that people living in poverty are more likely to be living in rural areas and that they are agricultural producers and consumers. In fact, these households are often net consumers of agricultural products, but they might be operating under such constraints that they dare not risk investment in a commercial crop. Project designers then focus on how to increase the capacity of these households to produce agricultural outputs.

5.3 Strategies focusing on agricultural production have made important contributions to agricultural supply, to calorie intakes and to nutrition improvements. But agricultural products have a low income elasticity of demand and a low price elasticity. Increases in output in these circumstances, even in the context of rapid growth in the whole economy, make only small contributions to increases in farmer income. In this context, Lin (2002) proposes instead a greater focus on the reduction of rural labour. A decrease in rural labour is only possible if the economy follows its comparative advantage in the development of production and trade in labour intensive products. Otherwise, the flow of labour out of rural areas may only create a large pool of urban poor without jobs.¹³

5.4 From this perspective, an investment of further funds in agricultural production is not a priority. Resolving rural poverty problems requires investment in other areas, perhaps in urban areas.¹⁴

5.5 Many projects do take an integrated approach involving both farm and off-farm activities. The Western Poverty Reduction Project (now the Gansu and Inner Mongolia Poverty Reduction Project) as well as projects that will generate income off the farm.¹⁵ But there is value in taking an even wider perspective on strategy, for example, in this

¹³ The price effect of any one project might be small and the evaluation of the effects of that project might take prices of outputs as given. But the accumulation of a series of projects, or the effects of the follow-on projects which are initiated by local agencies with their funding, can generate the effects identified by Lin.

¹⁴ The Government commented that other areas of investment might include environmentally friendly crops and animal production as well as off-farm activities including agro-processing, packaging, marketing, logistics services, and other agro-integrated activities, in rural areas, perhaps in urban areas.

¹⁵ On the other hand, the original specification of this project included a labour mobility component which has since been removed.

case, the determinants of conditions in labour markets to which the local workers might re-locate.

5.6 These observations reinforce the value of the proposal to move away from production-based projects towards projects which raise returns to labour. Also relevant are projects which help solve the problems of market failures in rural China, including the provision of public goods (in relation to water management, other environmental issues or the production and distribution of research, for example).

The Retention of a Production Focus?

5.7 A feature of agriculture sector projects over the 1990s, and including some not yet closed, has been their production focus. As the cases summarised in the appendix illustrate, many of these projects also require a substantial amount of micro-level planning. This feature is partly a consequence of the characteristics of the inter-governmental financial system in China. Lower levels of government are asked to take on responsibility of the repayment of loans. Projects are then either selected or augmented during the preparation phases so as to generate cash flows which will fund the repayments. This adjustment is made in ways which tend to reinforce their production focus.

5.8 The principle of “who borrows who pays” is applied in these circumstances. Adoption of this principle facilitates the management of projects and contributes to the higher ratings in terms of implementation of agricultural projects which were noted above. But the question is whether the nature of the inter-governmental financial arrangements is also leading to a bias in project selection, altering project designs once the broad goals for a project are identified, and shifting project outputs away from the Bank’s and China’s long term goals and priorities as listed above. Projects that generate income flows proceed but, in these circumstances, projects that have social benefits are more difficult to develop and implement. This constraint is especially relevant to projects related to poverty alleviation or building public goods.

Other Implementation Issues

5.9 The pressures associated with the domestic systems of public finance have other implications.

Project evaluation too narrow

5.10 Project evaluation processes include both financial assessments rather than economic assessments. However the extent of the economic appraisal is not always comprehensive.

5.11 To illustrate, the staff appraisal report of the Qinba Mountains poverty reduction project reports a financial analysis of the project (on which farmer incentives to

participate depend) and an economic analysis. The difference is the use of various shadow prices in the latter. But the economic evaluation excludes, because 'it is impractical to quantify their benefits', the 'education, health, rural infrastructure, institution building and poverty monitoring activities' (p. 59). A similar approach is taken in the appraisal of The Water Conservation project (p. 14) where the benefits of institutional development or better environmental management are not included in the economic evaluation. Capturing these effects is clearly very difficult but options for some assessment of a project to these institutional variables could be developed, even in the form of a hurdle, defined in qualitative terms and based on the experience of earlier projects, which a project must exceed.

Project risks in timing and personnel

5.12 Projects developed in this framework are more sensitive to timing and personnel changes. Their design also puts demands on the judgements of Bank staff for project management at a micro level, for example, in relation to technological choices and other operating procedures. A related issue is that project evaluation in these circumstances might take a long period of time. If the project is focussed on production and sales to markets, then the prices of outputs, or inputs, could change significantly. The project has to be reviewed in these circumstances and this requirement introduces a further delay.

5.13 Very large projects usually involve a group of provinces all of whom are responsible for their share of the borrowings. An internal Bank study cites as examples of projects which might run across administrative boundaries to include those involving inter-provincial transport links, development of river basins, afforestation, projects which are designed to respond to environmental problems, and others.¹⁶

5.14 However, the presence of a number of provinces in these projects contributes to a new set of issues. Some may withdraw as their perception of the economics of the project shifts. This is more likely when the projects involve a large production component, but if one province withdraws, the evaluation process must be initiated again.

5.15 Delays in implementation from these sources contribute to some frustration among borrowers.

Institutional development lacking

5.16 Another observation to emerge from the Bank's cross sector reviews is that while projects might meet their physical targets, the development outcomes can be mixed. The suggestion is made that solving this problem requires a greater focus on institutional aspects, and on service quality rather than quantity. This is an important issue: these projects are expected to serve as pilots which demonstrate the appropriate mechanisms to implement good policy.

¹⁶ There is also value in the coordination of design, preparation, implementation and funding of projects and it is argued by the Bank that such coordination could reduce the cost of funding provided by bilateral and multilateral donors.

5.17 There is often commentary in project evaluations about the sustainability of project benefits or about the long-term impacts on institutional development. A particular project might have a one-off effect, but the technology of the management practices it employs may not be sustainable by the institution which hosted the original project. Alternatively, specific skills might be transferred at one point in time to a particular group of participants, but that transfer might have no long-term effect on the effectiveness of the organisation. These are issues in ‘capacity building’ and their resolution depends not just on making technology available but on the incentive structure in the organisation to continue to use that technology once the project is complete. Those incentives depend on both internal management structures and also the environment in which the organisation operates. For example, long term efficient use of new irrigation infrastructure depends on the mechanisms for pricing and allocating the water.

Cross-sectoral impacts add to complexities

5.18 One of the goals often cited is to reap more benefits across sectors. The aim is to recognise the synergies between, for example, working on an irrigation project and at the same time funding a research and development program on productivity in irrigated agriculture, or even funding downstream processing that depends on inputs from land development associated with irrigation projects. In China’s institutional context, as already noted, there are powerful incentives for provincial governments to establish these linkages, and ‘add-on’ projects, in order to increase to the total income flow from which loan repayments might be financed. Further, the lender also has an incentive to increase project size to economise on lending costs. Reviews of projects often refer to their complexity and the issues which this situation creates. Cross-sectoral projects are appropriate, as the discussion above of strategy in relation to poverty alleviation indicates, but the incentives created by the public finance system induce cross-sectoral activity for the wrong reasons or to an excessive degree.

5.19 The constraints on growth of the private sector are a focus for further policy reform. But the private sector, broadly defined, includes foreign investors, such as those attracted to the services sector as a result of China’s WTO commitments. Investors in infrastructure services are among this group, including those working in areas in which the Bank has in the past provided funding and built models to illustrate how to engage the private sector.

5.20 Attention to avoiding the crowding out of private sector investment, even in agriculture, and the design of institutional arrangements to encourage that investment will be important. The experience with private sector participation is now much greater; and the Bank has not only developed pioneer projects in China (in energy for example) but also has the capacity to share the experience of the rest of the world.

5.21 However, the focus on production and the requirements for repayments create a risk of driving projects more towards those which the private sector in China might finance, even using local sources of debt. Examples are the agro-processing activities which are part of many of the integrated projects. In other words, the biases in the portfolio selection process add to the risk of crowding out the private sector. It is

important that Bank projects be designed to contribute to the other goals of institution building and the increase of the capacity in China to implement new policy.

Design of strategy for influencing policy

5.22 Key constraints on development are often related to policy, not just resources. The constraints cannot be removed by observing that ‘grain marketing is a problem’ or ‘the hukou system distorts labour markets’ or ‘the public finance system upsets incentives for efficiency’. Removing the constraints also depends on the implementation of new policy to replace the current structures which create these distortions.

5.23 How does the Bank influence policy design and implementation in China? Demand for policy advice and information about strategies to support institutional strengthening continues to be high in China. The WTO accession has added to that demand. The challenges in rural China, including the environment and questions about the relative income levels, for example, add further to that demand. The Bank is a leading source of advice on these issues and assessments of the Bank’s role in China have stressed this contribution.

5.24 Lele, Nyberg and Goldberg for example argue that the Bank’s professional knowledge has “helped to articulate pros and cons of important macroeconomic and sectoral policy issues, provided quantitative, intellectual support to the reformers in China in a transparent manner and perhaps helped speed up the reforms and their implementation where there already was considerable internal segment of opinion in favor of such reforms”. The reforms they highlight in this respect include tariff reforms, grain price increases, liberalization of commodity markets, and reform of the state enterprises.

5.25 An example is the series of reports on the grain sector in China (World Bank, 1991a, 1994, 1996, 1997b). The last of these brought together a body of empirical work in order to identify the policy responses that would comprise an efficient response to the debate about food security at that time. It stressed how current policies might assist security of supply in the short term but jeopardise it in the longer term. It projected the likely growth of consumption and trade in different scenarios. As explained above, grain sector policy continues to evolve, but in the direction of the policy identified in this sort of analysis. Other recent examples are the work on poverty and sub-national finance (World Bank, 2001).

5.26 The quality of the reports associated with the ESW program is excellent, in terms of the relevance of the framework adopted, the depth of the analysis, the quality of the data and the clarity of the presentation. The work on grain, on the rural transformation and more recently on inter-government relations is or will be widely cited by researchers in the field. As development proceeds in China, however, and as familiarity with markets increase, policy makers are asking for more information on how to make transitions from the current position to that advocated.

5.27 For example, Nyberg and Rozelle(1999), which was published three years ago, provides a fascinating picture of an integrated package of policy measures designed to ‘accelerate China’s rural transformation’. The report also includes a 5 page annex of policy issues and actions. Then annex includes some indications of time periods over which the policy actions would be undertaken, which could be used to establish a schedule of reform. Many of the suggestions are relatively simple and from their description it is clear what process would be applied for their implementation, for example, “conduct a study of...” or “ establish a training program for ...”.

5.28 Other recommendations involve the creation of new institutions and associated regulations, for example, “introduce a rational system of water pricing”. The Chinese policy maker may be very sympathetic to this proposal but the challenge is where to start given the technological challenges involved, the range of options available and the private interests that will have to managed.

5.29 With respect to these more complex requirements, there is an important contribution to be made in terms of sharing the experience in other countries, or designing institutions from scratch taking into account China’s circumstances. These activities require analysis of options, consideration of the sequence of events in which change will be introduced, time spent in constructing institutions according to that sequence, designing the right financial arrangements and training staff to sustain the whole architecture. Other topical examples of these requirements for heavy investment in institution building include the development of the land transfer markets in China, or the development of markets for risk in the grain sector. These contributions should ideally be included in the project evaluations.

5.30 Another main question in relation to agricultural projects is how the Bank provides its knowledge services effectively in the context of decentralisation in China, the shift to IBRD funding and the marginal role of the Bank in providing resources. Is that transfer of knowledge tied to lending, for example, or can it be made and funded independently? How does the Bank offer new concepts and innovation in policy design?

5.31 The Bank could try to focus on a series of issues papers, timed to make an impact on a current policy debate. These papers might also be delivered in parts in the form of policy notes, designed to reach key decision makers in the agricultural policy making process, such as

- ❑ The Leading Group of Finance and Economy of the Party Central Committee,
- ❑ The Development Research Centre of State Council,
- ❑ The group of the State Development and Planning Commission,
- ❑ The State Economic and Trade Commission, and
- ❑ The Ministry of Agriculture

5.32 The Bank is clearly already well-connected with much of this network (evident for example in the contributors to the various ESW reports).

5.33 This contribution could be made separately from the participation in projects – ie the degree of complementarity is small in this model. The key role of the Bank is not the provision of resources but of ideas. Projects of this type would also be relatively small, and would not necessarily involve large-scale lending, and yet the expected rate of return of carefully selected projects would be high.

5.34 On the other hand, participation in large-scale lending projects contributes to the effectiveness of the ESW work. It adds to the perception of credibility among the people receiving the policy analysis. It not only adds to the perception but also actually adds to the depth of the analysis because the participation provides ideas and intelligence that supports the policy work. The program of lending projects also provides some consistency in the interaction between Chinese officials and the Bank which is also important for the provision of ideas.

5.35 Active participation in project is also an important vehicle for capacity building including in the policy area. The implementation process brings Bank staff into contact with officials and through that interaction the most effective exchanges of information and ideas takes place. Furthermore, the project work can draw on experience in other countries to demonstrate the process by which institutions can be built to support structural reform. The key issue is not the identification of policy problems—there are large numbers of highly trained economists who can contribute to that goal. The key constraint is the capacity to implement ideas about policy innovation, as stressed above.

5.36 The question is whether participation in projects should be limited to those of the type which dominate the current portfolio. More effective (acknowledging the funding constraints involved from the Chinese perspective) would be participation in a large number of projects focussed on institution building, some of which could be relatively large exercises (eg building new market institutions for items not previously traded extensively in China, such as water and risk).

6. Review and Further Questions

6.1 The evaluations reported above show a strong set of results. Evaluations lie generally in the upper half of the evaluation scales. It appears that even if rated unsatisfactory the issues are mainly those related to management and timing of implementation, rather than assessments of impacts of the investments.

6.2 There remain concerns in project evaluations on average about the extent of institutional development. This is an issue since, to paraphrase a couple of China CAS statements, the goal of the program is to ‘catalyze repeater projects that demonstrate sound policy principles, help to build institutions necessary to complete structure reform and contribute to ways in which policy changes can be implemented’.

6.3 The themes of the lending program relevant to agriculture are changing, and moving the directions implied by the new policy priorities in China. For example its

focus is shifting further from any direct production interest towards poverty alleviation, water management and other natural resource issues, and the institutions of the agricultural research system.

6.4 The PAR process has also identified important structural changes which are relevant to project design and implementation. These are the combined effects of a) decentralisation and b) the growth of the private sector. These changes affect the institutional framework within which the projects are being carried out. However in both these dimensions the Bank's China portfolio faces important challenges.

6.5 The biggest issue remains the system of sub-national finance and the incentives it creates in project selection and design. The consequence of this system at present is that to some extent the Bank is driving its contribution of public goods from its participation in the production of private goods. Ideally the interaction should be in the other direction. The origins of the current circumstances in terms of China's systems of national public finance are understandable. But this orientation leads to a bias in the portfolio. While participation in projects is critical for the delivery of the Bank's mandate, the current circumstances have not only shifted the mix of projects but also in the process induced a number of issues in implementation. These include the nature of project evaluation, the extent of delays in implementation, the impact of delays on project design, the demands on Bank staff and crowding out the private sector.

6.6 As a consequence of the financial arrangements in China, the Bank in order to achieve the goal of participation in projects, tends to be drawn in provincial level activity. The sensible approach to poverty reduction, involving an integrated set of activities, then leads to very large projects requiring a high degree of micro-management which subsequently exposes the Bank to significant risk and leads to more complex projects which are difficult to administer.

6.7 The responses to this situation include not only continuing work to anticipate pressures for change in the three key areas of grain marketing, labour mobility and public finance, but also to deliver a steady flow of ideas about policy innovation and its analysis which is relevant to those areas. The response to this dilemma also involves a much tighter applications of economic evaluation of projects, so that those projects which produce the public goods, including the public goods associated with capacity and institution building, are not underweight in the portfolio.

6.8 The requirement for participation in specific projects in China in order to achieve credibility is understood, but doing so creates a dilemma, in the context of the current public finance system, for the design and implementation of the overall program.

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Irrigation & Drainage								
P003411	N. CHINA PLAIN I	1982	1988	60	58.7	S	L	Sub
P003441	PI SHI HANG AREA	1985	1992	92	114.7	S	L	Mod
P003489	GANSU PROVINCIAL DEV	1987	1996	170.5	185.0	MS	L	Mod
P003474	NORTHERN IRRIGATION	1988	1998	103	99.9	S	L	Sub
P003551	SHAANXI PROV. AGRICU	1989	1997	106	111.3	U	Unc	Mod
P003558	HEBEI AGRIC. DEVT.	1990	1998	150	164.9	S	L	Sub
P003560	HENAN AGRIC. DEVT.	1991	1999	110	116.6	S	L	Sub
P003582	IRRIG. AGRIC. INTENS	1991	1998	335	342.6	S	L	Sub
P003556	TARIM BASIN IRRIGATI	1992	1998	125	135.9	S	L	Sub
P003561	SICHUAN ADP	1993	2000	147	152.5	S	HL	Sub
P003562	XIAOLANGDI MULTIPURPOSE	1994	2001	460	459.8	HS	L	Sub
P003596	YANGTZE BASIN WATER	1995	2003	210				
P003594	GANSU HEXI CORRIDOR	1996	2007	150				
P003649	SHANXI POVERTY ALLEV	1996	2003	100				
P036405	WANJIAZHAI WATER TRA	1997	2003	400				
P049700	IAIL-2	1998	2004	300				
P046563	TARIM BASIN II	1998	2005	150				
P049665	ANNING VALLEY AG.DEV	1999	2005	120				
P051888	GUANZHONG IRRIGATION	1999	2005	100				
P064730	Yangtze Dike Strengthening Project	2000	2005	210				
P056516	WATER CONSERVATION	2001	2006	74				
Others								
P003428	SEEDS I	1985	1991	40	52.0	S	Unc	Sub
P003429	AGRIC.RESEARCH II	1985	1992	25	29.3	HS	L	Sub
P003514	RURAL SECTOR ADJ. LOAN	1988	1990	300	293.2	S	L	Mod
P003559	AGRIC. SUPPORT SERVI	1993	2001	115	118.3	S	L	Sub
P003627	GRAIN DISTRIBUTION P	1993	2003	490				
P003593	SONGLIAO PLAIN ADP	1994	2002	205				
P003563	ANIMAL FEED	1996	2002	150	22.4	S	L	H
P003638	SEEDS SECTOR COMMERC.	1996	2002	100				
P038988	HEILONGJIANG ADP	1997	2003	120				
P003591	STATE FARMS COMMERC	1998	2004	150				

