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# **Farm Business Planning in Kazakhstan**

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## **Abstract**

The agriculture sector in Kazakhstan has undergone rapid change over the last ten years. In the first stage state owned and collective farms were transformed into producer cooperatives owned by their former employees. Central provision of essential inputs was rapidly withdrawn while product prices were initially held down to protect urban consumers. Faced by rising input prices, escalating tax demands and disappearing product markets the cooperatives sold much of their livestock and built up unsustainable levels of debt. In the latest stage of the process, bankruptcy procedures have been used to write off debts and reorganise the cooperatives into private farms. Against this background the paper describes an attempt to assist three farms to draw up business plans for the next seven years. The business plans focus on how the farms should make profitable use of improved irrigation systems provided under a government credit scheme.

## **Introduction**

Farm Business Plans were prepared for twelve former state farms in autumn 1998. Each plan was intended to be a practical management tool that would assist the farms in making decisions about cropping patterns, livestock enterprises and marketing over the next few years. The plans paid particular attention to the financial viability and optimal utilisation of irrigation infrastructure, which was to be provided under a government supported loan.

This paper provides the background to this exercise by describing some of the changes in the agricultural sector since 1991. The process of farm business planning is described based on three case studies. This is followed by discussion of some of the key issues that emerged from the process.

Kazakhstan reaches from the Caspian Sea to China and from Siberia to the Tian Shan Mountains (see Figure 1). It has the second largest land mass in the former Soviet Union (FSU) yet its 1994 population of 17 million, or 6.2 people per square kilometre (World Bank, 1998), makes it one of the most sparsely populated regions in the world. Kazakhstan became independent in 1991 and began a comprehensive structural reform program aimed at moving toward a market economy in 1993 (World Bank, 1998).

Green and Vokes (1997, p.257) provide a useful comparison of the experience of transition in Southeast and Central Asian countries:

“In East Asian and Southeast Asian transition economies such as the People’s Republic of China and Vietnam, agriculture has, at least in the initial stages of transition played the role of a lead sector. Reforms have met with a very rapid and positive supply response in

agriculture that has sustained the broader economy. In Central Asian Republics, the situation has been very different. Economic reforms in response to the unexpected shock of independence and the collapse of the previous regime have been insufficient thus far to arrest a deep and widespread economic depression that has been felt across all sectors including agriculture”.

National output in Kazakhstan fell by around 40 percent during 1991-95 (De Broek and Kostial, 1998) although the World Bank (1998) reports that GDP has now started to grow again. In spite of its present difficulties Kazakhstan’s medium and long-term economic prospects are better than many other parts of the FSU “due to its vast hydrocarbon and mineral resources, low external debt obligations, and well trained workforce” (World Bank, 1998).

Agriculture was the second largest sector in the country in 1992, accounting for 30 percent of national output and 24 percent of employment. Agricultural production declined faster than the economy as a whole so that the share of agriculture in gross domestic product had declined to 11 percent by 1997. Grain production has fallen from 25-30 million tonnes under the FSU to around 12 million tonnes; while the number of cattle and sheep fell by 55 and 73 percent respectively from 1991 to 1997 (Asian Development Bank, 1998). However most rural families now rely heavily on self production of basic foods, which do not appear in official statistics; the situation is similar to that reported in Russia by Seeth et al (1998).

### **Agricultural Transition**

Agricultural transition has been central to the government’s reform programme since independence. Price controls have been removed on all goods and services and most state enterprises have been privatised. In the agricultural sector almost all state and collective farms were turned into private entities by the beginning of 1996, most agricultural storage, distribution and sale networks were privatised by late 1996 and the state’s exclusive ownership of land has been significantly relaxed (Burger, 1998). The constitution no longer prohibits private ownership of land and it is reported that agricultural land that is now owned by the state and leased by farmers and other users will eventually be passed into private ownership.

At the beginning of 1991 agricultural land in Kazakhstan was divided into 2120 state farms (*sovkhozy*) and 430 collective farms (*kolkhozy*). These farms varied in size from 5000 to over 300,000 ha (Asian Development Bank, 1998).

#### *Stage 1*

The first stage of the agriculture privatisation process started in 1991 and was largely complete by early 1996 when approximately of 93% of the country’s state farms had been privatised. At the same time nearly all of the former Soviet collective farms were re-registered as private entities (Burger, 1998). The following description of the process of agricultural privatisation is based on Gaynor (1996), Asian Development Bank (1998), Burger (1998) and on interviews conducted by the author.

- The State Committee for Privatisation conducted an assessment of the value of farm assets<sup>1</sup> and based on a comprehensive inventory established a standard 'property share' (*imushchestvennyi pai*) for each member of the farm.
- A similar process was used to determine the "land share" (*zemelnyi pai*) based on farm area and the number of farm members. The share was often adjusted to take account of factors such as length of employment, seniority and land quality.
- Farm management conducted informal consultations to try to establish a consensus on the structure of the new farming entity as well as on the allocation of property and land shares.
- The farm workers held a general meeting in order to formally adopt the new form of farming entity, sign a founding agreement, establish by-laws, approve the allocation of land and property shares and elect a farm manager.
- Workers who wished to leave the farm and form independent or smaller units had the legal right to exchange their land shares for demarcated parcels of land.

By far the most common outcome of privatisation was the conversion of state farms (*sovkhozy*) into Productive Cooperatives (PC) or joint stock companies which continued to operate much as they had under the FSU. This has been attributed to the fact that:

- the reform process was not driven by the farmers but was part of the process of economic reform. "Farm employees who have been used to life-long employment and the provision of comparatively low but secure social benefits were and remain sceptical of the benefits of privatisation and fearful<sup>2</sup> of the risks inherent in a market economy" (Burger, 1998);
- workers lacked the management skills to run independent farms;
- *oblast*<sup>3</sup> administrations made semi-official recommendations favouring the establishment of large farming units; and
- managers favoured creation of production cooperatives since this often allowed them to maintain their positions.

In spite of these obstacles many independent family based peasant farms were established. They tended to be allocated low quality land, or if irrigated, land at the 'tail' of the irrigation scheme. These farms also suffer from a lack of readily available tools and machinery to a greater extent than larger scale units<sup>4</sup>. They often relied on the PC for provision of inputs and machinery; this must have been a major obstacle to their success since PCs would be expected to give priority to their own requirements.

### Stage 2

While more than 90% of state and collective farms had been "privatised" by 1996 most of these organisations attempted to continue to operate much as they had under the old system. In most cases all workers became shareholders and managers retained

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<sup>1</sup> E.g. buildings, machinery and livestock but excluding land.

<sup>2</sup> Burger (1998) points out that these fears are perfectly justified, particularly in areas where agricultural expansion had been funded by huge state subsidies.

<sup>3</sup> *Oblasts* are regional administrative units.

<sup>4</sup> "The sale 'on the side' for a quick profit of all kinds of moveable (and even immovable) assets- small spades, large combine harvesters, even entire roofs- was a common occurrence. These items were not included in the asset inventory of Soviet farms" (Burger, 1998).

their positions. This left these farms with excess personnel<sup>5</sup> and a heavy load of social obligations. It is further reported (FAO Investment Centre and World Bank, 1998) “that many Soviet farms were over-equipped in the sense that they had more farm machinery of all types than they needed for efficient operation”.

As a result of these and other factors the new privatised concerns entered the free market environment at a substantial disadvantage. Central provision of essential inputs was rapidly withdrawn while product prices were initially held down to protect urban consumers. Faced by rising input prices, escalating tax demands and disappearing product markets the cooperatives sold much of their livestock and built up unsustainable levels of debt.

According to a recent mission (FAO Investment Centre and World Bank, 1998) “the debt burden of most farming concerns has emerged as perhaps one of the principal issues hindering improvements in the agricultural sector”. By any standards the scale of the problem is severe; according to estimates by the Asian Development Bank reported in Green (1997) total farm debt was estimated to be in excess of US\$1.5 billion in mid 1996. A survey of the financial status of all corporate farms found that almost 80% were either insolvent or bankrupt<sup>6</sup> at the end of 1997 (see Table 1).

**Table 1: Financial Status of Corporate Farms at end of 1997**

	No. of Sample Farms	%
Stable and Profitable	961	21
Insolvent	2811	62
Bankrupt	770	17
All Sample Farms	4542	100

### *Stage 3*

In the latest stage of the transition process, bankruptcy procedures have been used to write off debts and reorganise the cooperatives into private farms. The data presented in Table 2 illustrates the beginning of this process. While many farms have reached an accommodation with creditors the administration is now actively encouraging the break up of PCs into new private entities. Thus it can be seen that twice as many farms were reorganised with a break up as those that avoided this step. It is reported that this stage of the privatisation process will gather pace over the winter of 1998/99 and may be largely complete by the middle of 1999. While the new entities often involve managers of former state farms they are likely to behave very differently to in the past since:

- they have often shed most of the workforce and all or most social obligations; and
- they are generally operated by private individuals or companies.

<sup>5</sup> According to (Asian Development Bank, 1998, p.19) “the 1997 rural survey estimates that former state farms usually employed 10 times as many workers as they would under a market economy”.

<sup>6</sup> Data for Tables 1 and 2 is drawn from Asian Development Bank (1998) Appendix 4.

**Table 2: Actions Taken by Insolvent Farms up to End of 1997**

	No. of Sample Farms	% of insolvent farms
Reached an Accommodation with Creditors	943	34
Reorganised without a Break Up	233	8
Reorganised with a Break Up	450	16
Number of Insolvent Farms	2811	100

### **The Case Studies**

This section highlights selected aspects of the farm business plans prepared for three enterprises, each of which is at a different stage of agricultural transition:

- a production cooperative expected to be reorganised into private production units within the next few months;
- a large private farm, recently formed from a bankrupt producer cooperative; and
- a commercial firm formed in 1995 from a former state farm.

In each case the enterprise includes a non-functioning irrigation system that is to be rehabilitated under a government supported loan. The business plans paid particular attention to the financial viability and optimal utilisation of this investment. All farms had provided data to enable completion of a pre-feasibility study of the proposed irrigation investment. The farm business plans were prepared over a six-week period in late 1998. The main steps in the planning process are summarised in Table 3.

**Table 3: The Farm Business Planning Process**

- Preliminary analysis based on mailed questionnaires and data provided at the pre-feasibility stage.
- First Farm visit including detailed discussion of:
  - i. the objectives of farm business planning
  - ii. the farm business planning process
  - iii. farm objectives and goals
  - iv. present situation
  - v. market outlook and marketing strategy
  - vi. organisation and management
  - vii. financial status and performance
- Preparation of a draft business plan based on spreadsheet analysis of a range of options
- Second Farm Visit
  - i. presentation of preliminary results
  - ii. further discussion of options
  - iii. spreadsheet based 'what if analysis' as appropriate
- Preparation of Farm Business Plan
  - i. including all headings listed for first farm visit (above) and
  - ii. proposed investment, financing plan and financial projections

### *The Cooperative*

The Production Cooperative was established in 1995 when a collective farm was privatised. It operates 9,000 ha of arable land and 16,000 ha of pasture. The irrigated area has fallen from 1400 ha in the early 1990s to 700 ha in 1998. The PC is owned by 461 workers and 127 pensioners and includes a settlement with a population of 850. Average wages are around US\$60 per month, most of this being paid in-kind (as bread, flour, straw, hay, meat, coal, grain etc).

During initial discussions, the chairman of the PC revealed that it would shortly start bankruptcy proceedings and that this would result in its break up into several smaller private entities. Thus it was clear from the outset that the farm business plan would have to be revised once the new organisational structures are established.

The structure of the organisation and size of the workforce has changed little since 1991. However there has been a steady decline in the area cultivated and in average yields. This is mainly attributable to reduction in input use<sup>7</sup> and cultivated area, and to rapid deterioration of the irrigation infrastructure. The farm operates a combined dairy/beef herd<sup>8</sup> where annual production of milk has fallen from 2000 tonnes per year in 1993 to just over 1000 tonnes per year in 1998.

Over the same period the PC has generally recorded a paper profit (see Table 3). However these statistics tell only part of the story since over the same period the PC has built up debts of over US\$0.6 million – mainly unpaid taxes. It has also suffered from a chronic shortage of liquidity and so has had to barter for essential inputs at effective prices far above the cash price.

**Table 3: Past Financial Performance (US\$ million)**

Year	Gross Income	Net Profit/Loss
1994	0.98	0.24
1995	0.90	0.19
1996	1.44	0.21
1997	0.96	(0.03)

An initial proposal had been developed to rehabilitate the irrigation infrastructure on 1150 ha of land at a cost of US\$ 3.9 million. After a government subsidy of US\$1.2 million (30%) the PC would have been required to make annual loan repayments of US\$0.26 million. In order to make this level of expenditure viable the farm business plan would have required that a large proportion of the irrigated area be used for production of relatively high value crops such as vegetables, potatoes and fodder for the dairy herd. However expansion of all of these enterprises faces significant constraints:

- potato and vegetable production has been reduced in recent years because of difficulties in selling large volumes at a profitable price;

<sup>7</sup> In common with other farms in the region use of chemical fertilisers has virtually ceased.

<sup>8</sup> Stock numbers have fallen from 3330 in 1993 to 2256 in 1998 this includes reduction in cows from 1270 to 577.

- milk production is constrained because of regular gluts during the spring and summer – and the absence of processing facilities;
- meat prices have fallen to low levels because of the collapse of effective demand in Russia.

In consultation with the PC a revised proposal was developed whereby the area to be rehabilitated was reduced to 667 ha at a capital cost of US\$2.3 million. This area would be mainly used for cultivation of potatoes (265 ha), maize for silage (184 ha) and lucerne (173 ha). At full development the farm is projected to earn US\$1.9 million per year producing a profit of US\$0.3 million. This includes debt servicing for the loan for irrigation development and other capital investment in machinery and livestock.

### *The Large Farmer*

In 1995 production cooperative 'B' was established from a large state farm. The cooperative had 1186 ha of 'irrigated' land but most of the irrigation equipment is either broken or missing with the result that none of the land has been irrigated since 1995. An initial proposal was developed to rehabilitate the irrigation infrastructure on this land at a cost of US\$6.8 million<sup>9</sup>. Production levels and infrastructure deteriorated rapidly throughout this period leaving the PC with large debts.

Bankruptcy proceedings started in 1997 and are now almost complete. The local administration facilitated a process whereby 64 shareholders transferred their land shares to the former manager of the PC (*'the large farmer'*) in exchange for annual provision of grain and straw in perpetuity. The shareholders who gave up their land shares in this way generally did not have the resources to cultivate land for themselves. Annual compensation payments are based on 3% of the annual production of grain that would be produced on rainfed land. It is hard to understand why the shareholders were willing to give up their land shares in exchange for such a meagre return unless they were ill advised or subject to some sort of pressure.

The rapid pace of transition meant that a proposal that was initially developed for a large production cooperative (supporting around 500 workers) was transferred to a single farmer. The local administration recommended that the proposal be carried forward unchanged in spite of the fact that farmer's assets other than land consist mainly of a limited range of agricultural machinery. It was clear that the business plan for this enterprise would require major revision since:

- provision of a US\$6.8 million subsidised loan to a single farmer would be both inequitable and very risky – given the farmers lack of assets or financial and managerial backing;
- the plan called for production of fodder for 1000 cattle – but the farmer owns no livestock or livestock housing;
- the plan called for production of 10,000 tonnes of potatoes per year but the farmer owns no potato stores.

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<sup>9</sup> After a government subsidy of US\$2 million (30%) the farmer would have been required to make annual loan repayments of US\$0.45 million.



A revised business plan was drawn up whereby the irrigated area was halved. Economic analysis of the investment produced an economic rate of return of 11% and so will only proceed if major cost savings can be achieved. Assessment of the farmer's skills and asset levels suggest that he could successfully manage a farm including:

- extensive rainfed cereal production (up to 500 ha);
- intensive production of high value crops on 50 or perhaps 100 ha; and
- small scale livestock production (dairy and pigs).

Unfortunately the transition process has left this farmer in control of a far larger unit which if irrigated would require an annual turnover in excess of US\$1 million. The risks associated with such an investment are clearly too high.

### *The Firm*

The firm was established in 1995 from a branch of a large state farm when 84 shareholders and 50 pensioners agreed to transfer their land shares in exchange for annual provision of grain, flour and straw in perpetuity. As with the previous case, those who gave up their land generally did not have the resources to farm on their own. The value of compensation paid to the former shareholders was equivalent to around 17% of the rainfed grain that could be produced on their land share. While this is almost six times as much as in the previous case, it is still a low level of compensation.

The sole owner of the firm is a former director of a state farm and clearly has substantial influence and financial backing. Since the break up of the Soviet system he has gained control of two blocks of land totalling over 34,000 ha. This includes 27,500 ha of arable land of which around 1000 ha was once irrigated. He has extensive business interests including transport, storage and agro-processing.

An initial proposal had been developed to rehabilitate the irrigation infrastructure on 671 ha of land at a cost of US\$4.6 million. At full development the farm would produce 201 ha of potatoes and 126 ha of vegetables. This is a fairly ambitious target, however the firm has demonstrated its ability in marketing and agro-processing. They plan to buy a potato store of up to 10,000 tonne capacity at auction and have significant resources that should enable them to obtain necessary levels of seasonal credit and medium term finance. The target is thus considered to be achievable although there is a significant risk that marketing problems, lack of storage or high production levels may lead to substantially lower prices in some years. At full development the farm is projected to earn a total of US\$1.25 million per year, producing a profit of US\$0.3 million. This includes debt servicing for the loan for irrigation development and other capital investment in machinery and livestock.

While the firm probably has the management capacity and financial backing to successfully manage the proposed investment it will not go ahead unless substantial capital savings can be achieved. This is because economic analysis of the investment<sup>10</sup> produces an economic rate of return of only 10%.

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<sup>10</sup> The economic analysis includes the full cost of the loan whereas the financial projections for the farm business plan do not include the 30% share which is paid by the government.

The scheme has a very high capital cost per hectare, largely attributable to the attitudes of the local consulting engineers. These may be characterised as:

- “a project once selected will go ahead”;
- “over-design to avoid any risk of failure”;
- “follow ‘standards and norms’ (see below); and
- “give low priority to consideration of cost effectiveness”.

As a result of such attitudes the proposed rehabilitation includes US\$0.8 million for filling and treating saline depressions, although this expenditure could have been avoided by locating the irrigated area on a flat piece of land.

### **Some Key Issues**

#### *Farm Business Planning*

All of the enterprises found the process of farm business planning to be very useful. They are still trying to adjust to the new economic climate and do not naturally assess activities using criteria suited to a market economy.

The business planning process provided a framework within which farmers and managers could reassess the activities and ‘standards and norms’<sup>11</sup> used under the old system using techniques such as gross margin and cost effectiveness analysis.

#### *The Privatisation Process*

While the official farm privatisation process appears to be equitable and democratic questions must be raised about the reality of the process and its effects. Former state farm managers often became managers of the new production cooperatives and then often gain control of all or much of this land as private farms. Former workers have seen major erosion in the real value of their income and are now being made redundant in increasing numbers. In many cases workers have given away their land shares for non-existent or very meagre returns. As a result the Asian Development Bank (1998, p.26) reports that “... farm privatisation thus far has resulted in a few very large farms and a large number of very small numbers. Neither is suitable for efficient farming in a market economy”.

Under the farm privatisation process the vast majority of farm employees received land share certificates. In other countries<sup>12</sup> land redistribution of this kind has had a beneficial impact on agricultural production and equity. In Kazakhstan at least 80% of these land shares have been transferred to form large corporate farming entities (Asian Development Bank, 1998, p.5). In many cases land use rights were simply transferred against the promise of employment without any contract. In other cases people received compensation for transferred land use rights generally in the form of food or the right to purchase animal feed at cost price. However while the transfer of land use rights is officially recorded the benefits received in return are not clearly identified in any contract and so can never be the subject of litigation. In many agricultural

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<sup>11</sup> Many activities are carried out according to ‘standards and norms’ without any assessment as to whether these standards are still appropriate or cost effective

<sup>12</sup> e.g. China, Vietnam, Cambodia

economies a landowner can expect to receive up to 50% of production as rent. Depending on circumstances the landowner is often expected to provide a share of input costs such as fertilisers. Given the minimal level of input use in Kazakhstan the compensation levels reported in the two case studies (3% and 17%) are very low and would appear to represent a particularly bad deal for the former shareholders.

Many factors have contributed to the unsatisfactory results of farm privatisation. At the local level legislation has often not been implemented as intended and shareholders have often not been made aware of their rights. Local officials are appointed (not elected) and continue to influence farm management. In many cases they are the same people who directed state farms under the old system. Workers continue to cede their land shares in exchange for employment and food security and are often owed several months of back pay. “No wonder ... [that] while on paper things appear to have changed, in actual fact the system continues to function much as it did under the centrally planned economy, albeit on a reduced scale” (FAO Investment Centre and World Bank, 1998).

#### *Enterprise Viability*

Under the old command economy the government provided farm inputs, procured outputs, determined prices and controlled internal and external marketing. Substantial state subsidies were put into irrigation infrastructure, the Virgin Lands Campaign and other activities in an attempt to increase grain supply to the FSU. As a result “the previous economic system left a residue of institutions and economic conditions that define the set of problems now faced ...” (Green and Vokes, 1997). For example the existence of bankrupt farms and declining agricultural production can in part, be traced to the fact that a significant proportion of the crops produced under the old system would not have been economic under a market environment.

A recent study by the Asian Development Bank (Asian Development Bank, 1998, p.24) suggests that Kazakhstan may have a comparative advantage in four main areas of agricultural production:

- intensive irrigated production with high value crops (e.g. vegetables);
- mixed arable farming systems in areas with relatively reliable rainfall;
- extensive arable farming using, in part low volume irrigation; and
- extensive dry land farming

These findings have huge implications for the future shape of the agricultural sector. For example the arable area could be reduced to as little as 5 million ha (compared to 18 million ha at present and 24 million ha under the FSU). The irrigated portion of the arable area is also likely to come under increasing pressure. The original design of the irrigation systems did not place a high priority on efficiency due to very low energy costs and the zero-pricing of water. It has been estimated that these systems used 30-35 percent more water than those growing similar crops in market economies (Asian Development Bank, 1998, p.12).

#### *Liquidity Problems and Barter*

At present most producers in Kazakhstan are unable to obtain seasonal credit. As a result they often have to sell their crop forward at a considerable discount to arrange

the supply of essential crop inputs such as seed, fertiliser and diesel fuel for cultivation at the start of the cropping season. Even when farms have production stocks they are often unable to sell these for cash and so are forced to barter. As a result farms receive less than the open market value for their produce and so achieve low profits.

Poser (1998) suggests that “the institutional legacies of the Soviet system are to a large extent responsible for the inability of FSU currencies to recover their functions”. He concludes that:

“in the presence of liquidity constraints, barter represents a technically efficient solution for firms. In addition barter protects the supplier from non-payment. It is essential to understand that liquidity-constrained firms are not unwilling to use money but are unable to do so”.

This last point was certainly true in the case of the production cooperative. The PC was unable to sell its wheat for cash but used it to pay for electricity, diesel, taxes, wages and for many other purchases.

## **Conclusions**

This paper is based on research conducted in order to assist three former state farms to draw up business plans. All of the enterprises found the process to be very useful since they are still learning how to assess activities using criteria suited to a market economy. Rapid transition in the agricultural sector has thrown up a number of issues that will require further attention. Farm privatisation to date has resulted in a size distribution that is neither equitable nor well suited to efficient farming in a market economy. Many of the crops grown under the former FSU are no longer profitable with the result that the arable area could be reduced to as little as 5 million ha compared to 18 million ha at present. Even farms that have a genuine comparative advantage must still deal with liquidity constraints that make it hard both to sell products and to obtain inputs and credit.

The scale of these problems should not hide the fact that much has been achieved in the seven years since independence. A broad policy and legislative framework has been established, agricultural trade has been completely liberalised and state monopoly marketing abolished. Government control on procurement and pricing has been reduced to a minimal level. All state farms have been privatised. But the supply response to the reforms has up to now has been poor. Transfer of the agricultural sector from the command system to a market economy was always going to be a huge undertaking and there are some grounds for optimism provided that the reform process is well managed and that sectoral constraints are addressed.

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