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Soviet Agriculture in the 1980s: Recent Reforms and Effects

It has become all but impossible to follow closely the development of Soviet agriculture and agrarian policy. The discussions on ways and means go on, legislative and comparable acts and texts may be outdated by the time of publication, or overlap each other, for example, the new (draft) Model Charter for kolkhozes and the relevant part of the Law on Co-operatives. Manifest and major policy changes concerning agriculture, under M. S. Gorbachev as Party General Secretary, began in late 1985 (formation of the all-Union *Gosagroprom*) and early 1986 (XXVIIth Congress of the CPSU), spectacular effects on production can hardly be expected within only two years (1986 and 1987). Yet he had already been Central Committee Secretary responsible for agriculture since late 1978, and therefore must have had considerable, though not exclusive, influence on Soviet agrarian policy since then, in particular on the Food Programme announced in May, 1982. Therefore, an outline of the most recent developments will be given below without special regard to their being 'Gorbachevian' or not. It will be followed by an attempt to discern the economic effects and their possible causes. Of course, not all relevant aspects can be covered in one paper of limited length. Moreover, there is agreement in supreme Soviet statements, as well as specialists' opinions, that the full reform process has only started and will take a number of years.

RECENT DEVELOPMENTS

The list of known measures concerning agriculture under Gorbachev's leadership is long. In many cases, formal legislation (laws) lags behind acts of lower rank (decrees, instructions, regulations, and so on.) The main steps since 1985 are:

- The decree of 20 March 1986 'On the further Perfectioning of the Economic Mechanism in the Agro-Industrial Complex', which referred to almost all major aspects of the food economy and initiated important subsequent measures and legislative acts.
- The reorganization of almost the whole food sector administration (except for grain and water management) under comprehensive State Committees of the Agro-Industrial Complex (*Gosagroprom*) from the centre down to the

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Union Republics and each province (decree of 14 November 1985). The basis is formed by the Raion (district) Agro-Industrial Associations (RAPOs), which already had come into general existence in 1982/83.

– Various decrees enhancing the benevolent attitude towards the individual sector of private ('personal') plot and animal holdings. This attitude originated in 1977, was re-emphasized in 1981 and further developed since 1985. It was by a decree of 15 May 1986, on suburban individual gardening under collective organization and, more generally for non-agricultural holders, by another one of 25 September, 1987.

– The indirect scaling down (in spring, 1986) of the Food Programme goals of 1982 for grain, meat and some other products by referring them not to the 1986-90 average, but to the end year 1990. The importance of achieving the new, still very ambitious, plan target for grain was put into relief by the measures envisaged in a decree of 11 July 1986.

– The resolution to continue the 1974 agrarian redevelopment programme for the Non-Black-Earth Zone of European Russia during 1986-90 (decree of 7 June 1985) and, soon afterwards, the suspension, if not cancellation of the grandiose river diversion plans (decree of 14 August 1986).

– The formal endorsement of 'production commitment contract' (podriad) forms of labour remuneration and organization with special regard to small intra-farm groups, including family units, in part with land assignment for the longer term, by decree of 6 December 1986. It had already been initiated at the May 1982 Central Committee Plenum and approved by the Politburo in spring 1983. Most recently its essence has been incorporated and enlarged in the following three legislative acts of 1987 and 1988:

*The promulgation of the Law on the State Enterprise (Association) of 30 June 1987. It concerns those farms, which are in state ownership, most of them called *sovkhozes*. (It has to be mentioned that such farms by now hold more than half of socialized agricultural land and fixed assets, and half of the labour force in socialized Soviet agriculture.)

*A new *Kolkhoz* (collective farm) Model Charter, the draft of which was discussed and in general terms approved by the IVth Kolkhoz Congress in late March, 1988 and in its final form (which has not yet been published in the generally accessible press) approved by the Council of Kolkhozes on 3 August 1988.

*Assignment of an important role to co-operative forms of economic activities, among them small co-operatives formed by citizens' private initiative. The legal framework was provided by the Law on Co-operatives of 8 June 1988.

– Most recently, the 'Preliminary Regulation' (polozhenie) for state purchases in 1989 and 1990 (approved on 25 July 1988 by the Council of Ministers of the USSR).

No legislation was needed, except the annual approval of the State Budget, for the general shift in investment policy for agriculture and the food sector: no more above-average increases for the sector and within it a larger share for socio-cultural infrastructure on the countryside and for the downstream links of

agriculture. As to the agricultural producer prices set by the state, their sizeable increases of 1981 and 1982 (decrees of 14 November 1980 and 24 May 1982) were not repeated, except for the decree of 4 June 1985 on high quality grain.

The most important element of these changes, is the general introduction of the 'podriad' system of organization and remuneration of work (in the whole economy, but of particular importance in agriculture, which is discussed further below). This would not have needed special legislation, because it does not contradict earlier acts, with the one, very recent, exception of leasing/renting land. As the Soviet Land Law and the Civil Code explicitly forbids leasing and renting of land, an amendment is required.

One may distinguish between two phases in this stream of legislative reform measures, the one from late 1985 up to June, 1987 concerning mainly administrative and organizational changes and reallocation of resources, and the other of the period since then. The second was characterized by lively public discussion on the future course and downplayed the directive role of central authorities in actual production and its organization at the farm and local level. The logical corollary of such a trend, the great reform of the price system, or, more exactly, of the mechanism and criteria of price-setting, announced in summer 1987 for 1990/91, has not yet taken clear contours. Similarly, wholesale trade in off-farm inputs (initiated for a limited number of organizations by decree of 27 March 1986) is being much advocated, but is not yet a reality. Some of the administrative novelties of the first period (the *agroproms* and, back to 1982, the *RAPOs*) are already being questioned and may undergo changes in the near future.

Whether the Party Conference of June 1988 will usher in a new phase remains to be seen; so far it mainly approved and reinforced the measures of the second phase. One of its important outcomes, as far as the food sector is concerned, is the very recent regulation concerning the application of the 'state order' (*goszakaz*), which is to replace the previous system of the mandatory procurement 'task' (*zadanie*) in fixing the deliveries of farm output to the public sector.

OVERALL IMPROVED PERFORMANCE

A reversal of the 1978-81 downward trend of agricultural production became discernible in 1982, mainly in the livestock sector, but also with some major crops, except for a drop of grain output in 1984.

As to the Gorbachev period in a narrow sense of the word, that is, since March, 1985, it makes sense to present the 1986 and 1987 results combined, as the Soviet authorities are prone to do. 1986 brought a great output increase, and 1987 stagnation; that is, a decline in crop production because of very unfavourable weather, but 2 per cent growth in livestock production. Moreover, the wet harvest weather in 1987 caused grain and potato output to be of very inferior quality with concomitant enormous post-harvest losses. The combined 1986-7 growth of gross agricultural output, however, is quite respectable against 1985 (plus 5 per cent) as well as against the 1981-5 average (plus 9 per cent). Prospects for 1988 do not look bad.

A major flaw in the outlined overall positive development is the fact that during the 1985-7 period labour inputs in socialized agriculture (in rounded

TABLE 1 *Output of Soviet main crops, 1976–87*

	1976–80	1981–85 5-year averages	1986	1987
<i>I Absolute Quantities,</i> million tonnes				
Grain & legumes, ‘bunker weight’	205.0	180.3	210.1	211.3
Oilseeds	6.04	5.71	6.25	7.24
(of which sunflower in %)	(88)	(87)	(84)	(84)
Potatoes	82.6	78.4	87.2	75.9
Sugar beet	88.7	76.4	79.3	90.4
Cotton, unginned	8.55	8.31*	8.23	8.09
cotton fibre (Soviet recalculation)	2.61	2.45	2.60	2.47
<i>II Yields (centners per hectare)</i>				
Grain & legumes, ‘bunker weight’	16.0	14.9	18.0	18.6
Sunflower seed	11.8	11.9	13.7	14.6
Sugar beet	237	218	233	266
Potatoes	117	115	113	119
Cotton fibre (Soviet recalculation)	8.6	7.6	7.7	7.0

Note: *This is the recently corrected figure and is lower than those published earlier.

Sources: SSSR v *tsifrah v 1987 godu*, Moscow 1988, pp. 110–11, 116, 117; for 1987: Annual statistical report, *Pravda*, 24 January 1988.

figures of average annual workers) remained practically unchanged. At the same time, the sum of labour cost increased by more than 8 per cent and thereby exceeded output growth, while investment also increased. Detailed investment data for 1987 are not yet available, but productive fixed capital assets per worker show an annual increase of 7 per cent by 1987 over 1985, that is, at roughly the same annual rate as during 1980–5, although much less than the increases during 1970–80. It seems that under ‘self-accounting’ (*khozraschet*) and somewhat increased autonomy, the public farms in 1987 began to restrict their machinery purchases. As against 1985, the number of their tractors declined (total h/p increased insignificantly) and the same happened with combine numbers. It remains to be seen, whether this is a one-time change or signals more selective buying also in the future. On the other hand, their park of trucks continued increasing at an accelerated rate, which makes sense in view of the severe transport bottle-necks on Soviet farms.

The crop sector

The overall quantitative improvements in crop production are not spectacular, it is true, but they reveal the change of trend in comparison with the early 1980s as shown in Table 1.

Yields per hectare of grain almost repeated the 1978 record, although on a smaller sown area. Similarly, sugar beet output hit the record of 1976, combined with (after the 1970–80 decline) rising sugar extraction rates (at least until 1986). Cotton production continues to suffer from an aftermath of the ‘Uzbek case’ (falsification of statistics) or from worsening soil conditions and salinisation, or both combined, but the ratio of lint to raw cotton in 1986 and 1987 showed a slight improvement.

The grain figures in ‘bunker weight’ require adjustment to make them comparable to Western data and thereby reduce them to quantities actually available for human, animal and industrial consumption. (On the definitional aspects, see *Prospects for Soviet Agricultural Production* in 1980 and 1985, Paris 1979/OECD/, pp. 58–61, and the revised and enlarged edition of 1983, pp. 77–81; Soviet statements on ‘losses’ lack clear definition and are not specific by product.) In those publications the present writer arrived at an adjusting deduction of 14–17 per cent on the multi-annual average, higher than the 10–12 per cent applied for dockage and wastage by the USDA research group, but in conformity with a recent oral statement by a Soviet economist. Because of excessive moisture content in 1987 the necessary adjustment for that year is likely to amount to about 20 per cent, as the drying and storage facilities could not cope with a moisture content of up to 40–45 per cent and therefore much grain was spoiled after delivery.

Official Soviet speakers still cling to the goal of producing one metric tonne of grain per head of the Soviet population, which seems exaggerated also to Soviet specialists. Yet this goal is obviously set in terms of ‘bunker weight’, and if the above adjustment will be made in the foreseeable future (there are rumours about an imminent improvement in Soviet grain statistics), such an output would amount to only about 850 kgs per head and the goal would look more justified for achieving adequate domestic supplies of meat and a higher living standard in general. One might also envisage gradually improving grain harvesting and utilization as well as a reduction of the enormous pre-harvest losses (which have not been taken into account for the above adjustment). By applying corresponding – admittedly highly speculative, though not utopian – improvement factors, an adjusted potential output would have been around 700 kgs per head of the population in 1986, but only 650–675 kgs in 1987, and it may exceed 750 kgs by 1990. If during the same time-span the feed conversion ratio continues to improve (see below) and the share of concentrate feed does not rise, actual availabilities will increase within those quantities.

The livestock sector

In animal farming, the qualitative improvements are more marked than in crop production, not least for the feed conversion ratio. They are badly needed; not only milk yield per cow is low, but also meat output per animal. Only 65–70 million pigs of an average weight of 100–110 kgs are slaughtered each year (reader’s letter in *Sel’ skaia zhizn’*, 19 July 1986, p. 2), while the number of pigs (excluding breeding sows) at the beginning of a year comes close to 75 million. Thus the average annual raising and fattening time of a pig exceeds one year.

TABLE 2 *Soviet livestock numbers 1975–87, million at beginning of year*

	1975	1980	1985	1986	1987	1988
Cows	41.9	43.3	43.6	42.9	42.4	42.0
Other cattle	67.2	71.8	77.4	78.0	79.7	78.5
Pigs	72.3	73.9	77.9	77.8	79.5	77.3
Sheep and goats	151.2	149.4	149.2	147.3	148.7	147.0
Poultry	782.0	981.0	1143.0	1165.0	—	—
Livestock units, annual average	146.8	154.9	161.5	162.7	163–64**	

Notes: *Derived from Soviet data on feed consumption in absolute quantities of oats units and on consumption per livestock unit, probably including horses, poultry and some other livestock.

** Author's estimate.

Sources: (also for Table 3): *Narodnoe khoziaistvo SSSR v 1975 g.*, pp. 391, 395, 401, 412; *Nar. khoz. za 60 let*, pp. 337, 349; *Nar. khoz. 1980*, p. 245; *Nar. khoz. 1985*, p. 239; *Nar. khoz. 1985*, p. 206; *Nar. khoz. za 70 let*, p. 258, 267; *SSSR v tsifrakh v 1987 godu*, p. 120, 122. Data for pork, beef, veal, mutton and goatsmeat separately: *Statisticheskii ezhegodnik stran-chlenov Soveta Ekonomicheskoi Vzaimopomoschi*, 1987, Moscow 1987, p. 206.

Similarly, annual beef and veal output of 8 million tonnes compares unfavourably with close to 80 million head of other cattle not cows at the beginning of year. Improvement started in 1982 and has continued ever since. On the impact of feed grain and protein imports, cf. Table 2.

A number of observers interpret the decline of animal numbers during 1987 (1st January numbers of 1988) and that year's continued rise in meat production as a sign of emergency slaughterings because of the disappointing 1987 harvest. This need not necessarily be so, it may also indicate less administrative pressure to keep animals for the end year statistical reporting. Not postponing late autumn slaughterings would be appropriate in a year with scarce or qualitatively deficient winter feed resources, as was the case in 1987, and might help to increase the productivity of the remaining animals.

The official mid-year statistical report in the Soviet press of 24 July 1988 merely stated that, on the whole, meat output 'rose' over the results of the first half of 1987, but that in the socialist sector it increased by 4 per cent (5 per cent for milk and eggs), with similar increases for overall procurements. As usual, mid-year numbers of livestock in private ownership are not given and they may have declined, while an increasing share of their output seems to have been credited to the socialist sector (cf. below). Even in the socialist sector, which accounts for almost three-quarters of total herds, the numbers of cows declined by 0.3 million (1 per cent) against mid-1987, of other cattle by 1.7 million and of pigs by 1 million (that is, both by 1.7 per cent). However, after the unfavourable crop year of 1987, such declines are not sensational. One should not exclude the possibility that over the whole of 1988 they will be compensated for by higher productivity per animal.

Rising animal productivity (see Table 3) appears most directly in milk yields

Production measured in meat units increased faster than feed consumption and annual average numbers of livestock. If continuing, the declining feed consumption (per unit output), on the one hand, and the growing (against 1980) share of non-grain feeds in it, on the other, will have sizeable implications for Soviet grain import requirements and/or domestic milk and meat supplies.

Most likely, the contribution of the private sector and of small (family) contract production helped with the qualitative improvements in the livestock sector. The discrepancy between the growth of total output and that of total labour cost on public farms would be yet greater, if the Soviet statistics did not overstate the output growth of the socialist sector by 2-3 percentage points by crediting it with some output that is actually generated on the individual plots (estimate based on *SSSR v tsifrah v 1987 godu*, pp. 106, 111, 112, 122, 139.). There is a certain,

TABLE 3 *Soviet animal output and feed consumption, 1975–87*

	1975	1980	1985	1986	1987
Milk, million tonnes	90.8	90.9	98.6	102.2	103.4
Milk per milking cow, kgs	2204.0	2149.0	2330.0	2445.0	2501.0
Eggs, billion	57.0	67.9	77.3	80.7	82.1
Wool (greasy) thousand tonnes	467.0	443.0	447.0	469.0	455.0
Meat, slaughter weight, million tonnes, unadjusted*	15.0	15.1	17.1	18.1	18.6
adjusted*	12.7	12.8	14.6	15.3	15.8
Pork per pig,** kgs	78.0	70.0	75.0	78.0	79.0
<i>Synthetic indicators:</i>					
Oats units consumed, million tonnes	368.5	398.1	436.1	444.2	—
of which: concentrate feed***	118.9	143.9	147.4	150.8	—
Oats units per annual average livestock unit (cf Table 2), tonnes	2.51	2.57	2.70	2.73	
Meat units produced million tonnes ****	34.7	35.3	39.1	40.9	41.6

Notes: *Including fats and edible by-products, therefore adjusted figures are added by deducting 15 per cent to make the output data roughly comparable to Western statistics.
 ** Unadjusted quantities per animal at beginning of year.
 *** Roughly 85 per cent consisting of grain, legumes and grain by-products.
 **** 1 kg of meat (unadjusted) = 1.0, 1 kg of milk = 0.167, one kg of wool = 3.57, 1 egg = 0.05 meat units.

Source: See Table 2.

though limited justification for this misleading procedure, as much of such additional plot production is based on contracts with the public farms (cf. below). Most of the output so contracted is delivered and sold to the collectives or state farms and accounted statistically under these. This fact was for the first time officially corroborated by the Soviet 1987 statistical pocketbook. There were some such transactions before 1985 and, to some extent, before 1980 but the quantities involved began to increase considerably in 1981, while direct private sales to state agencies declined. Such output may be considered the result of a contract mini-farming of sorts (cf. section on *podriad*, below). In this respect it differs from the old-established 'personal' plot farming where the plot-holding household on its own decides what to produce and how much within the given legal restrictions and under the obligation to fulfil the work obligation on the public large farm.

The public farms supply private and contract producers with some, though not with all by far, of the feed for their livestock. As feed supply is a grave bottleneck in the Soviet livestock sector, its supply to individual producers represents an important contribution of the public farms – a fact that is invariably pointed out in Soviet publications. However, like almost all other resources and services which individual small-scale producers receive, it has to be paid for, either in money or in produce. If it is given as labour payment in kind, it represents a result of collective work, which to that extent benefits individual producers and is double-counted in their output as well as in socialized crop production.

In absolute quantities the sector of plot farming held its level in most recent years and even raised it against the low of 1980. As a percentage of overall Soviet output it declined for milk, but not for meat and wool. Looking at milk production, one finds that output shares and cow numbers in both sectors roughly corresponded. With meat production, however, there is a seeming paradox: its private output share is much greater than the share in animal numbers would suggest. The explanation again is in the intra-farm transactions: the published figures are for 1 January and towards the end of the year with its feed shortage many privately owned animals, except cows, are sold to the collective and state farms. Thus, on the annual average, many more animals than shown in the statistics are held by private owners.

Sizeable quantities of eggs and smaller quantities of milk, meat and wool are sold to the rural branches and stores of the practically nationalized association of consumers' co-operatives, but these are not reported separately in the published statistics. The same holds true for great quantities of potatoes, other vegetables and fruit, some of them produced by urban individual gardeners organized in 'collective gardeners' associations'. It is not clear whether or to what extent they are accounted for in the official statistics. It seems that most of those purchased on the territory of a collective or state farm are also accounted toward the latter's plan fulfilment ('territorial principle').

Yet why do not the public farms themselves use all the available feed for increasing their own supplies? The point is that in the case of contracted production only part of what the individually kept animals need is provided by the socialist sector. The individual producers add a sizeable part, usually more than half, of their household and plot resources, including their haymaking and grazing rights, by applying their own labour. Most of this labour is what the

TABLE 4 *Individual sector output of meat, milk and wool, 1975–87 (million tonnes)**

	1975	1980	1985	1986	1987
Milk, million tonnes (as % of Soviet totals)	27.9 (30.7)	27.1 (29.8)	28.1 (28.5)	28.0 (27.4)	27.8 (26.9)
Meat, slaughter, million tonnes (as % of Soviet totals)	4.7 (31.3)	4.7 (31.1)	5.6 (32.7)	5.7 (31.7)	6.0 (32.3)
Wool (greasy) thousand tonnes (as % of Soviet totals)	90 (20.1)	96 (21.7)	116 (26.0)	120 (25.6)	119 (26.2)

Note: *The figures of the table include those quantities which are produced by privately owned animals, but sold to the socialist sector and accounted towards its output.

Sources: *Narodnoe khoziaistvo SSSR v 1985 g.*, pp. 240, 241, and *SSSR v tsifrakh v 1987 godu*, pp. 121, 122.

public farm is not entitled to or not able to mobilize, and usually it is applied with greater care and intensity, including the tending of the animals, than in collective work. Thus, not only is additional labour mobilized, but also feed consumption is lowered per output unit, though not necessarily per animal.

Taking all this into account, the 25–26 per cent share of the ‘personal subsidiary economy’, usually indicated by Soviet authors, in overall gross production of food may be rather an under than an overstatement. It is an open question, whether the slowly declining share in milk production is not being overcompensated for by the growing potato, vegetable and fruit production of nonagricultural individual gardeners. And it cannot be excluded that the state’s efforts (mainly since 1981) to channel such produce through public trade outlets instead of letting it go to the free markets will exert a dampening effect on the positive development, which emerged during the period 1981–5.

For the overall food economy and the Soviet consumer it is of little relevance to what degree foods originate in the public or in the individual sector, except that not only in the free markets (legal, semi-legal or illegal) but for a growing share also in the stores of the consumers’ co-operatives he pays higher prices. According to official statistics, legal free market prices for meat, butter and vegetables in 1987 exceeded the state retail prices by factors of 2, 3 or even more (*Ekonomicheskaiia gazeta*, no. 32, 1988, p. 11.), and consumer co-operatives demand prices closer to the free market than to those of the state retail stores.

What matters is the fact that there was growth and that overall efficiency improved, at least in the livestock sector but perhaps slightly also in crop production. As to the contribution of the private sector in absolute terms, it increased very little, if at all, during the period 1981–7. This is not a negligible achievement in view of the declining rural population, but it is quite clear that this sector mainly contributed by not having a negative influence and by even sizeably increasing its meat output and probably that of vegetables and fruit. In itself, it was not a growth factor. Overall, the supply of the scarce foods per head of the population increased only slowly, and subjectively may not have been felt by those consumers who do not run rural household or urban garden plots.

Individual plot and family production is not efficient in itself under the Soviet limitations of inputs for such small-scale activity. It is the low efficiency of the majority of public farms which forms an underlying condition for the comparative advantage over large-scale socialist farming. In addition, the unavailability of animal products and of fresh vegetables and fruit in most village stores gives also the non-marketed share of those products a value for the rural producer, which far exceeds their official prices. With better availability and more efficient large-scale farming, plot and related contract production might become mere hobby-farming or, in regions with surplus labour, a form for utilizing labour, whose marginal value is close to zero. Yet this is hardly a prospect for the near future.

Growth factors

As there was growth, albeit not sufficient growth to overcome the excess of demand over supply, the question arises: what were the factors fostering it? The increase in the supply of mineral fertilizer slightly accelerated during 1985–7 and is likely to have had a positive influence. More significantly, it was fastest with phosphorous fertilizer, which is in greatest deficit, although too slow with potash.

That the increased imports of protein feedstuffs probably contributed to the improvements in the livestock sector, has been mentioned above. But when comparing with the early 1980s, one has to bear in mind that grain imports (basically for feed) had declined by 1986–87, so that in essence the protein imports at best merely made up for their relative reduction.

The programme for the redevelopment of the Russian Non-Black-Earth zone (Central, Northwest and Northeast European Russia) at long last may show some success. Up to 1985, the results of huge investment for two decades were disappointing (see *Planovoe khoziaistvo*, no. 4, 1988, pp. 78–81). Yet 1986 brought a spectacular increase of the value of the gross crop output value by 17 per cent (grain yields per hectare even of 19 per cent), while animal production accelerated its annual growth of 2.4 per cent on the 1980–85 average to 3.6 per cent in 1986. During the same periods, the numbers of annual average workers in the public farm sector of the zone decreased by 1.9 per cent per annum (average 1980–5) and 2.5 per cent (in 1986), while fixed assets per worker continued their fast, but rather even, increase by 9.1 and 9.6 per cent, respectively. One has to wait for the 1987 RSFSR statistical yearbook in order to see whether the production results of 1986 were only due to unusually favourable weather, or heralded a change of trend.

For the great irrigation works of the past and present in the southern parts of the USSR, an article by Tikhonov and Laskorin (in *Kommunist*, no. 4, 1988) convincingly argues that their productive impact has been much less than was hitherto maintained.

As to the reorganization of the food sector administration, the numerous complaints in the Soviet literature about the Gosagroprom and RAPO institutions are not conducive to the conclusion that these had a sizeable production effect. The administrative-directive system with its rigid procurement or 'state

order' tasks obviously persisted in most of the country at least up to 1988. It rendered virtually meaningless the permission for public farms to sell their over-plan output and even some of their planned deliveries (mainly potatoes, vegetables and fruit) on the free markets, accounting it toward their plan fulfilment. For vegetables, the share of such sales was less than 5 per cent of total procurements in 1987 (APK: *ekonomika upravlenie*, no. 5, 1988, p. 20).

One reads and hears often enough that farm 'independence' (*samostoiatel'nost'*, a more adequate translation would be: autonomous farm management), as emphasized in the Law on the State Enterprise, the Law on Co-operatives and many authoritative statements, remained far below expectations. It is possible that, all the same, some farms were no longer wholly subservient to orders from the district authorities (now RAPOs), yet there is no possibility of quantifying the impact of such a phenomenon, if it exists. Much will depend on actual implementation of the new Model Charter for Kolkhozes and the Law on Co-operatives, the latter also being applicable in *sovkhozes* (state farms). Significantly, *sovkhozes* have been reconverted into *kolkhozes* in a number of cases, with a view to freeing them at least in part from the tutelage of superior branch or territorial administrators.

Independent farm management is a logical correlate of the government's intent to reduce the burden of subsidies by holding farms responsible for their economic and financial performance. From 1 January 1988, about half of all public farms have been put on 'full economic accounting and self-financing' (*polnyi khozraschet i samofinansirovanie*) and the rest is to follow in 1989. The implementation is difficult, to say the least, because many of them are unprofitable. Part of the subsidies will have to go to those weaker farms in the form of producer price mark-ups (cf. the calculations by RSFSR minister G. Kulik for Kalinin province in APK: *ekonomika upravlenie*, no. 7, 1988, pp. 22–8) and in the form of mark-ups for quality specifications also to all farms (for an example, see the decree on prices for quality grain published on 4 June 1988). These can only be preliminary steps as long as the comprehensive reform of the price system, as announced for 1990–1, is not enacted.

The dilemma of a situation where consumer demand exceeds supply at the prices fixed by the state is obvious. Even with greatly subsidized producer prices for animal products, many sales to the state are unprofitable for the farms and for this very reason have to be mandatory. Imposed procurement plans, however, necessarily undermine farm 'independence' and contradict the essence of the Law on state enterprises and on co-operatives. The latter therefore, after heated discussions, contain ambiguous formulations on the farms' expected 'voluntary' compliance with 'state orders'. The 'Preliminary Regulation on how to formulate the state orders for the years 1989 and 1990' of 25 July 1988 (*Ekonomicheskaiia gazeta*, no. 31, 1988, pp. 18–19) makes things clear: for the time being, practically all major crop and livestock products will be under 'state order' (*gosudarstvennyi zakaz*, abbr.: *goszakaz*) and at least for 1989 the intention is to make such orders cover 100 per cent of the output marketed by public farms (cf. *ibid.*, no. 30, 1988, p. 11). The hope is, of course, that with output growth and reformed prices, state orders will comprise a smaller part of saleable farm output, and that the cost/benefit ratio will improve in such a way that the state orders become really advantageous for the farms and will be fulfilled voluntarily.

In the present writer's opinion, the main growth factors of the recent past are:

- increasing application of fertilizer and pesticides;
- investment in the downstream structures (diminishing losses on the way to the consumer);
- a liberation, although rather limited, of the farms from tutelage and rigid plan tasks imposed from above;
- more effective incentives within farms through 'podriad' in small or family units.

These factors are likely to continue working towards quantitative growth and qualitative improvement. Of them, the 'podriad' deserves special attention.

The 'podriad'

The most promising scheme, in the present writer's opinion, is the 'contracted production commitment'. (The Soviet use of the word *podriad* is not rendered adequately by 'contract' alone.) It implies a change in the organization and remuneration of agricultural labour on the giant Soviet collective and state farms towards intra-farms smaller collectives (co-operatives) or family units. There is a growing awareness that Soviet public farms are over-sized in many cases. The *podriad* holds promise for better performance if, as envisaged, the unit of remuneration comprises not a few dozen workers with an appointed leader but a small, socially homogeneous, group where decision-making and mutual control of work performance is a less structured and mainly informal process.

A conceptual clarification is needed, however. With a small number of exceptions, the remuneration system as such has not changed. Basically it is the 'piecework and premium' (*akkordno-premial'naia*) system of remuneration, which was officially introduced in *sovkhozes* in 1961/62 and recommended to *kolkhozes* subsequently. Its success was very limited, to say the least. The idea was to make the remuneration not of the whole farm but of its sub-units dependent on the actual production results of these collectives and on the inputs spent by them and to give them some autonomy in organizing their work and input use. In the practice of the 1960s and 1970s, these groups were rather large brigades or farm sections, each with a few dozen and up to more than 100 workers, and the autonomy remained a dead letter. Only in a minority of cases were they small, the 'link' (*zveno*) and enjoyed a limited autonomy.

In each case, advance payments usually 70–90 per cent on the expected final income, which was pre-calculated on the basis of expected output at intra-farm accounting prices (below the state procurement prices), were made throughout the year. The rest was paid according to actual output at the end of the year and practically amounted to a premium for the fulfilment or over-fulfilment of the plan. In assessing the expected output and material as well as labour inputs and rewards, all the usual norms were applied, including work norms and tariffs, input costs and state prices, so that the previous system was not really changed. As overall plans for Soviet agriculture proved over-ambitious, fulfilment or over-fulfilment at the farm and brigade or section level must have been the

exception rather than the rule, and therefore final premium payments were either non-existent or negligible in most cases. The advance payment in practice amounted to a guaranteed minimum based on work norms and tariffs, and the over-complicated connection between individual effort and premium payment was not intelligible to most workers.

In spite of small changes in this system of remuneration, it remained valid for the *podriad* which was generally introduced during the period 1983–4. What was new was the greater emphasis on self-management of the sub-unit within the contracted framework and increasingly on small collectives of the 'link' type, that is, teams of less than ten workers. These may be either directly under the overall farm management or subordinated to a brigade or other kind of larger farm section. Since early 1986 family 'links' have increasingly been propagated. Thus, the change now is one of organizing farm labour and less of the remuneration system as such.

Within the policy parameters of '*podriad*' it is self-evident and also explicitly stated that the form of application should depend on local conditions, such as kind of production, availability of labour and machinery and natural endowment. Thus, highly mechanized grain farming on vast steppe lands of course requires a kind of sub-unit different from those in, say, range sheep herding or labour-intensive vegetable growing or dairy farming.

The most recent, mainly since the summer of 1987, drive towards 'rent contracting' (*arendnyi podriad*, from *arenda*-rent and leasing) and 'payment out of the gross income', if applied to family, kinship or comparable small units, generates an element of individual as a part of social production. Moreover, it aims at making the connection between individual effort and premium more intelligible. It seems, however, that in most cases it is applied in forms which should not be called production contracts, but individual or small group work contracts, analogous to those granted to large groups (brigades and, implicitly, whole *kolkhozes* and *sovkhoses*). They may be considered individualized remuneration systems and, due to the smallness of a given group, are likely to improve productive performance.

The Russian word *arenda* also implies a notion of tenancy, especially if the contract provides for long-term usage rights, as presently also recommended. Tenancy, however, may take many forms, which often depend on the kind of product. In what H. P. Binswanger and M. Elgin (in the present volume) call plantation systems, the technical requirements of a strictly defined product and production method dominate and make the tenant rather a wage worker in a prescribed production process on a designated piece of land, leaving only care and effort of work to his initiative but excluding entrepreneurship. Soviet parallels would be large-scale vegetable, fruit, sugar beet, tobacco, cotton and so on, *podriad* production, where only the manual work execution is left to small groups or families, while the machinery work is done by the large farm and processing as well as marketing is also the latter's prerogative.

At the other end of a wide scale of *podriad* forms we find an organization of livestock – dairy or meat – production, where not only are the animals tended individually, but also most of the feed production is left to the small group or family. This form seems to be most frequent in thinly populated regions with widely scattered farmlands and outlying old, often deserted, farmsteads, such as

large parts of the Russian Non-Black-Earth zone, the Baltic Republics and Siberia, or mountainous areas of the South. There, animal production in concentrated large-scale herds is often uneconomical, especially in view of the known shortcomings of Soviet large-scale organization. Such dispersion may be combined with a certain degree of mechanization, for example, in dairying and forage production. Private ownership of machines is not excluded, although renting them from the collective or state farm seems to be the rule and also occurs in intermediate forms between the two extremes described.

Selection of inputs and of the production process and thereby some entrepreneurship seems possible under such conditions. However, the kind of produce is prescribed in the 'rent contract', and its output may exceed the stipulated quantity, but is not expected to remain below. Individual marketing of above-contract quantities is not legally forbidden, but in most cases excluded by the contract, or practically impossible because of locally difficult free market access. Only a small share of the output, if at all, may be retained in kind by the 'tenants', so that the term share-cropping would be inappropriate.

In these regards, even the most tenancy-like Soviet contract farming differs substantially from the Chinese family 'responsibility system', where mandatory output comprises only part of the production, while for the rest the peasant family is free to produce and to market what it deems preferable.

A strong element of land rent is implied in the *podriad* system. Such rent, however, is not 'paid' by the 'tenant', but contained in the contracted accounting price per output unit, which largely depends on the expected output per hectare, that is, the soil fertility. To the degree that the difference between the state procurement price and the lower intra-farm accounting price exceeds the input supply, marketing and other overhead costs of the state or collective farm to which the tenant belongs, it represents an indirectly levied rent accruing to that farm as the holder of superior usage rights. One might also speak of a monopoly rent, as long as the farm remains the exclusive supplier of inputs and productive services, but the intention is to change this by introducing a wholesale market for inputs.

Since land prices and – as yet – supply alternatives do not exist in the Soviet system, the economic justification or acceptability of the terms of a *podriad* contract can in each case only be proven by the fact that it is concluded voluntarily. Not only is doubt on this account justified, but lack of voluntariness is also frequently mentioned in the Soviet press. Yet it is conceivable that most of the contracts on farming operations of the kind described above for animal farming on outlying farmsteads are concluded truly voluntarily.

Genuine individualized 'tenancy contracting' is being much discussed in the Soviet Union and numerous examples are described in the press, but in practice it seems as yet to be applied in a small minority of cases. For the time being these may be neglected. Even if ideological and socio-political inhibitions can be overcome, the prospects of their contribution to overall output growth will be limited in accordance with regional differences, for example, labour surplus versus labour shortage areas, specialization, products of highly mechanized versus largely manual work.

DIFFERENTIATED WAYS TOWARD LIMITED SUCCESS?

All this is not to say that every farm should change over to labour organization in small or family units. There are farms, which by Soviet standards are efficient and profitable and it would make little sense for them fundamentally to change their successful organization. Often such a farm becomes the leading nucleus of a horizontally and vertically integrated 'agro-industrial association' (the by now famous *Novomoskovskoe* in Tula province, which even replaces the local RAPO), an *agrokombinat* like the one called *Kuban* in Krasnodar province or an *agrofirma* like *Adaji* in Latvia. These forms are much propagated and do not exclude a *podriad* organization within the member farms. It is questionable, however, what degree of actual, not just formal farm 'independence' remains for the latter. There is also a suspicion that their formation is frequently 'implanted' (the telling Soviet verb *vnedrit*) by the local authorities instead of being considered advantageous by the farms and established on their own initiative (see K. Kozhevnikova in *Literaturnaia gazeta*, no. 30, 1988, p. 11.)

Reading the specialized Soviet press one has the feeling that there are groups of proponents trying to promote campaigns of the ill-famed pre-Gorbachev style in favour of their ideas. Yet one also realizes the new fact that there is not only one, solely correct design from highest quarters being propagated in the media. There is hope that 'pluralism' of opinion – within the limits of a socialist order – no longer is an empty catchword and that indeed various solutions conforming with differing local conditions will be implemented. This can only be for the best for agriculture and for the economy of the USSR at large. Past and future progress will materialize not quite as expected and not with optimal success. Yet progress can hardly be doubted. What remains doubtful is whether it will be sufficient to cope with the increasing numbers and the rising incomes and aspirations of the population. During the Party Conference of June 1988 it was clearly spelled out that this has not yet been achieved. It is for good economic as well as domestic policy reasons that this together with Gorbachev made it a top priority for Soviet economic policy for the next few years.

DISCUSSION OPENING – MÁRIA SEBESTYÉN KOSTYÁL

On this topic, a Hungarian discussion opener enjoys a comparative advantage, because the Soviet and Hungarian agricultural systems have many common features. For instance: forced collectivization; huge enterprises or units; real co-operation pushed into the background and the same with individual initiative; an industrial background extremely weak for agriculture. The Hungarian agricultural policy went through substantial changes before the Soviet one and the performance of Hungarian agriculture has proved the merit of these changes to a great extent. So the changes that are going on in Soviet agriculture can be evaluated more easily in the light of Hungarian experience.

The paper presented by Professor Wädekin proves the author's deep knowledge of Soviet agriculture. I agree with him when he first speaks about the new policy decisions made since 1985, which might result in real changes in the performance of Soviet agriculture. For instance, I find it extremely important to

stress the new elements of the 'Model Charter for Kolkhozes' – emphasizing the enterprise-character of the Kolkhozes and their democratic features; the possibility of renting the land of the kolkhozes; extending the activities of the kolkhozes; a new appreciation of the household farming.

As we can see, the Charter includes a mixture of technological, institutional, economic, political and social elements. Having learned from the Hungarian experiment, we know that none of these aspects can be neglected in a proper reform. The complexity is very important in the reform process, but there is one element which can never be over-emphasized. This is the human side of management. I suppose the quality of management was not emphasized enough in Soviet and other socialist countries in earlier times. Based on Professor Wädekin's paper I propose to deal with the following items during this session:

(1.) *Performance* – which can be evaluated on a time series basis and in an international comparison. In my opinion the Soviet agriculture cannot be judged only negatively. There is no question that huge potential exists and that is the next topic worthy of debate.

(2.) *Growth potential of the Soviet agricultural production.* The most important question is what would be the impact of relative success upon global food markets. Regarding the remarkable changes going on in the Soviet economy we can estimate a rather quick growth in grain production, for instance. It means that the Soviet grain imports will decrease to a great extent in the next five to eight years.

(3.) *The basic features of the Soviet agricultural policy.* The paper does not summarize the present agricultural policy. It would be useful to depict the main features of it. In my opinion there are many common features among the socialist countries' agricultural policies. For instance I would recommend that we summarize it as follows:

- agriculture constitutes an integral part of the centrally planned economy;
- socialist countries endeavour to achieve self-sufficiency;
- the so-called socialist big enterprises form the basic pillars of agricultural production;
- private or small-scale agricultural production exists and its role is growing;
- since the mid-1960s efforts have been made to open up the agricultural management system;
- efficiency and quality are today essential to agricultural policy everywhere.

(4.) *Private farming.* I think the role of the household farming should be separately discussed. There are many types of connection between the large-scale and small-scale producers, also discussed by Professor Nasarenko at the plenary session. Between the large-scale and small-scale farming a new structure of division of labour has to be developed. The labour-intensive products will probably move to the small-scale farming, while products having a totally mechanized technology might be mostly produced by large-scale farms.

To conclude, I would like to congratulate the author on a comprehensive paper which presents a very important subject. Changes are going on fast in the Soviet agriculture and we will see the result at the next Conference.