The political economy of Milk in Punjab

A people's perspective

پنجاب لوک سُجاگ

Punjab Lok Sujag

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This document is a summary report of a research exercise conducted by Punjab Lok Sujag over the last three years. It underlines Sujag's interest in understanding and changing lives of the dairy farmers of Punjab through organized and well thought-out social, political and economic interventions.

Punjab Lok Sujag
100 Tipu Block, Garden Town, Lahore
Ph: +92 42 583 0985
sujag.lhr@lokpunjab.org

10 Allama Iqbal Street, Ratta Khana Road, Depalpur
Ph: +92 4441 540 375
sujag.dpr@lokpunjab.org

www.loksujag.org

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The report comprises of two parts. The first offers **facts and figures** related to livestock farming, dairy market, caricatures of stake holders and an overview of national policies and global trends. This is necessary to understand and analyze the present situation. Sujag relied for this on literature search in libraries and on the internet. Most of the figures are quoted from Livestock and Agriculture Censuses Reports, and other government documents. On-line databases of UN's Food and Agriculture Organization (FAO) have also been used. Sujag also conducted two primary source research exercises to supplement the literature search and fill important gaps. These exercises included questionnaire based interviews of farmers in six districts of Punjab and interviews of consumers and quality testing of milk samples. One of these exercises was supported by Consumers International - Regional Office for Asia Pacific and the other by Pakistan Poverty Alleviation Fund.

The second part of this report is about **issues and debates** that have arisen in this course. Sujag team has been discussing the subject in formal and informal sessions through out this period. We have also made presentations to a number of gatherings across Pakistan on our findings and have been able to engage friends in discussions. This publication is aimed at widening this debate and raising questions, finding answers to questions and teaming up people who want to take these questions and answers to real life.

We owe acknowledgements to a lot of persons. Scores, if not hundreds, of individuals have helped us during the discourse which is summarized in this report. Their contributions varied from offering space to set milk testing laboratory inside a village to bringing to light new dimensions to complex questions about state, cooperative and companies as human organizations. We acknowledge contributions of all these invisible participants. We are here mentioning the names of visible participants of the process who as active Sujag members have led and organized various parts of this effort. The entire initiative is led by Shafiq Butt. Mohammed Umer and Qaisar Abbas have contributed technical expertise. Matloob Ali, Safeerullah Khan, Muhammed Asif and Mohammed Iftikhar brought field experiences. Tahir Mehdi has done most of the writing, the layout and graphics. Cartoons are contributed by Sabir Nazar and photographs mostly by Shoaib Iqbal. Aamir Butt has been filling lots of gaps. Akbar Pasha and Ayyaz Kiani have enriched discussions and helped analyze information.

facts and figures

Pakistan is the fourth biggest milk producer of the world. Its massive herd of 47 million cows and buffaloes produced 30 billion liters of milk in year 2002. Punjab alone contributes over 60 percent in the country's milk out put.

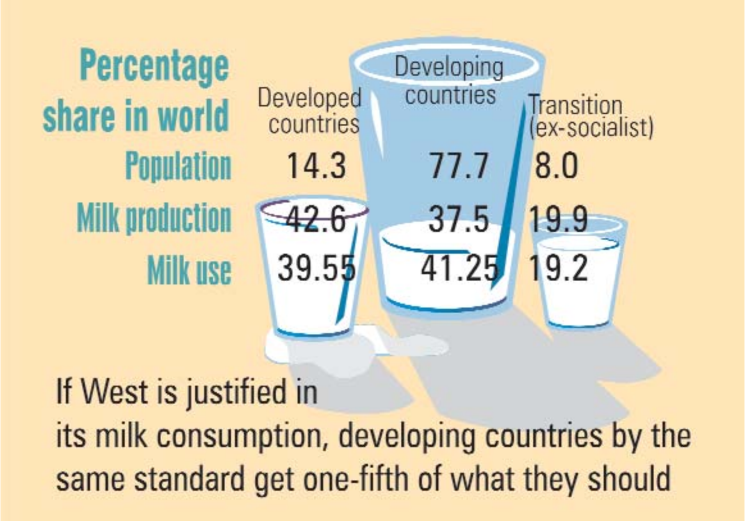
Milk consumption in Punjab has been traditionally very high. Oldest accounts of Punjab's local life style documented as high milk consumption as 1.25 liters per person daily. There were many pastoral tribes that had milk as their staple food.

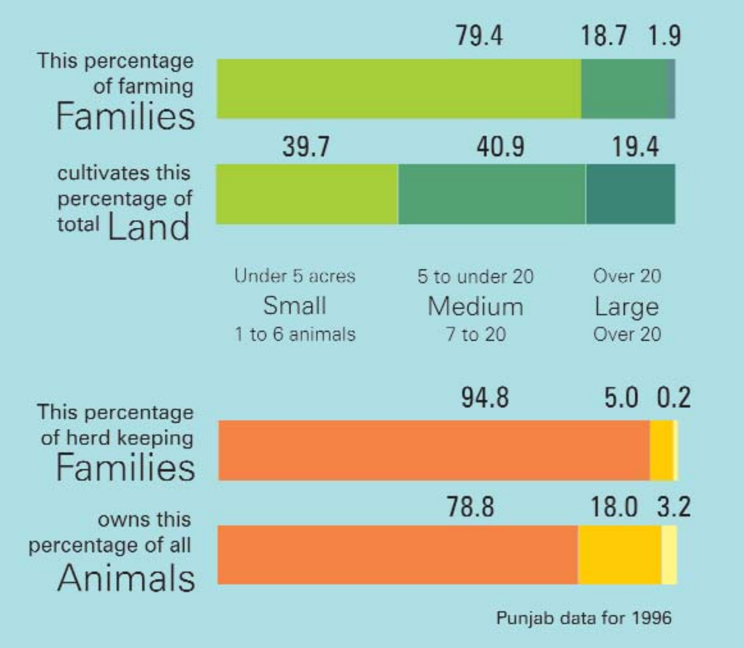
Pakistan is the fourth biggest producer of milk in the world while top 7 countries produce half of the global out put.

Per capita milk supply in Pakistan is 440 ml daily or 160.3 kg per year. This is almost four times the milk consumption average of Asia or all developing countries put together. The country's share in world milk production (5 percent) is double its share in global population.

Milk is a very important food item in Punjab as wheat and milk provide two third of the daily calories to majority population here. Official figures show that expenditure on milk and milk products by all in Punjab is the highest among all major food items - 22.8 percent for urban families and 26.2 for rural.

Animal ownership in Punjab is wide spread. Overall there





are more herds in the province than there are agricultural farms. Official statistics put number of land farms to 2.96 million (1996-97 figures) while there were 4.08 million households that reported keeping milch buffaloes or cows or both.

Animal ownership is heavily skewed in favor of small herds. Majority of animals are owned by families with small herds while large herds constitute a small portion of the overall animal population. This is in sharp contrast to land ownership as huge number of small land owners occupy a fraction of the total cultivated land and a few lords own large areas.

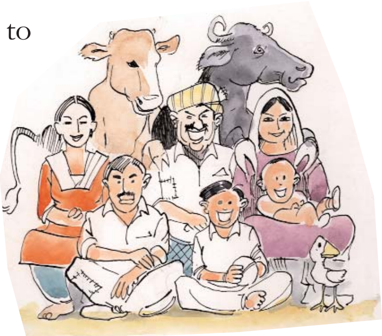
A very wide animal ownership base ensures regular milk supply across classes.

Herds thrive on a mix of grown fodder, crop stubs and free foliage - proportion of the three sources in animals' overall feed varies depending upon geography, season and the family's access to land.

Animals are part of our agri-eco system. Yet the size of the herd that a family maintains is not proportionately linked to the size of land it owns.

A herd size of three or four animals means one in-milk and one pregnant animal at any given time or in other words regular round the year supply of milk - around five liters a day. Small farmers with less than 3 acres under plough, landless farm workers or service providers in villages also try to get to this size of herd.

A Sujag study shows that the families ploughing three to 30 acres of land prefer a herd size of seven to eight animals this means three to four in-milk or pregnant animals enabling the family to achieve the cherished milk consumption level of a liter a day per person. After achieving this herd size families generally loose desire to further expand their animal possession. They prefer to put land resources to other more profitable uses.



Animals are invisible family members and a vital part of the agri-eco system. Milk is produced for home consumption.

Since centuries rural families have been producing milk for home consumption alone. Seasonal surplus was converted into ghee, again, for home use. Surplus ghee was however offered to eager urban buyers. The situation changed during last quarter of century as a lot of milk produced by small rural families started flowing towards urban markets.

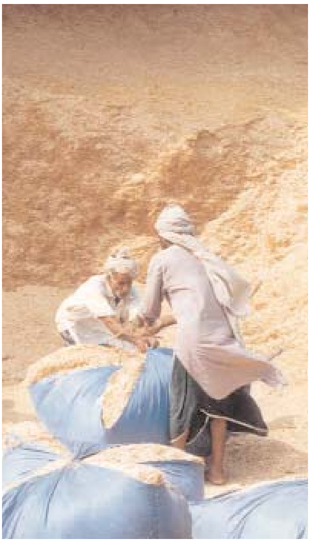
Traditionally, urban centers used to have their own milk production centers in and around cities. Very little milk used to cross the urban-rural boundaries. But then in 1980s municipal authorities decided without much thought to throw cattle out of cities. The most aggressive and violent campaign was in Lahore. This made impossible for the peri-urban milk producers to remain in business.

Peri-urban producers were the enterprising stars of the dairy sector till the industry decided to declare them villains.

The peri-urban milk producers, gawalas, operate from compounds inside cities or from peripheries. They will set

Cows are tougher than buffaloes. They are also less demanding on water and fodder. Cows thus become animals of poor families. Poor families' access to fodder resources is limited resulting in an underfed and low performance herd. A Sujag study shows that cows of poor families produce (3 liters a day) half of what richer families' cows give. Experts acknowledge that farm animals in Pakistan get 30 percent less than their appetite.

Buffalo and cow population in Pakistan has doubled over last quarter of a century. Yet the area under fodder crop has not changed much and the fodder out put has increased by only a third. In contrast production of all major crops has doubled or tripled. This points out that the massive increase in milk trade volume has failed to stimulate changes in milk production pattern.



Mechanization has reduced the demand for work oxen resulting in a sharp decline in their population. In 1976 there were 159 males per 100 females in cow herd, it came down to 33 by year 1996. Bulls are replaced by milch cows increasing milk out put of the same herd. Milch members of a herd have grown from one in four to one in three during the two decades. This increase in milk production has not put any additional burden on fodder resources as well.

up a sales point at the gate early in the morning and in the afternoon as the people from neighborhood carrying pots flock around. These entrepreneurs had to build repute in the area to ensure quick disposal of their highly perishable produce. They had binding supply contracts with consumers and the gawala milk was generally unadulterated. The gawala held sway on both sides of urban milk economy that is production and marketing. The peri-urban milk producer ran a market-oriented entrepreneur and not a subsistence one that is kneaded into the agri-eco system. All of its positive attributes and the vast potential for its development, however, became its failings. Gawala stood between success and the modern dairy industry. Packaged milk could never win consumers' favour if the supply line from peri urban producers was not cut off.

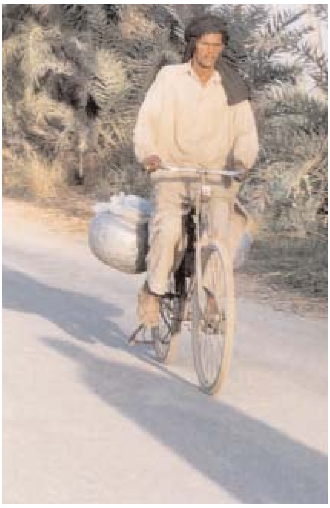
Lahore's cattle colonies are designed to be filthy. That is one sure way of securing markets for packed hygienic milk.

The municipal corporations acted as a mercenary for dairy

Peri-urban milk producers of Karachi are more organized and resourceful than their counterparts in Lahore. They also do not face tough competition from rural middlemen as, unlike Lahore, Karachi is quite far away from agricultural lands. They probably have more political clout as well, as municipal corporation Karachi could not be manoeuvred to launch a gawala elimination campaign.

All these factors have contributed to help develop peri-urban milk production in Karachi. A group of producers have made better use of this situation by forming Al-Momin Cooperative Dairy farming Society. They now have a modern collective farm, milk processing and marketing facility (Royal Dairies) and a brand (Milkflo). This demonstrates that the local milk producers have the potential to develop to industrial level.

industry in the war for urban milk markets over last quarter of century. Lahore's corporation declared all milch animals a public health hazard and an obstacle in making the city neat and clean and initiated a campaign to throw all of them out of city (and out of business as well, of course). The anti-cattle drive in Lahore has been the hardest one. All the twists and turns in the history of anti-cattle drive synchronise well with developments in dairy industry. Each time the industry needed a boost and an expansion in market, the corporation's campaign against gawalas got aggressive. Gawalas sought refuge mainly in the country's judicial system and kept challenging corporation's acts through writ petitions. This however could only help delay what was certain to happen.



Farmers in Pakistan are not producing milk for market. They are rather selling what they have been producing for family.

Peri-urban producers were effectively eliminated from Lahore by mid 1990s. The upper slot in the milk market gap thus created has been filled in by the packaged milk while the lower price market is still being contested by the industry and the middlemen receiving supplies from rural producers. The industry is now looking for new pastures and the municipal corporations of a number of other cities like Rawalpindi, Faisalabad, Multan and Gujranwala are trying to replicate Lahore's success story.

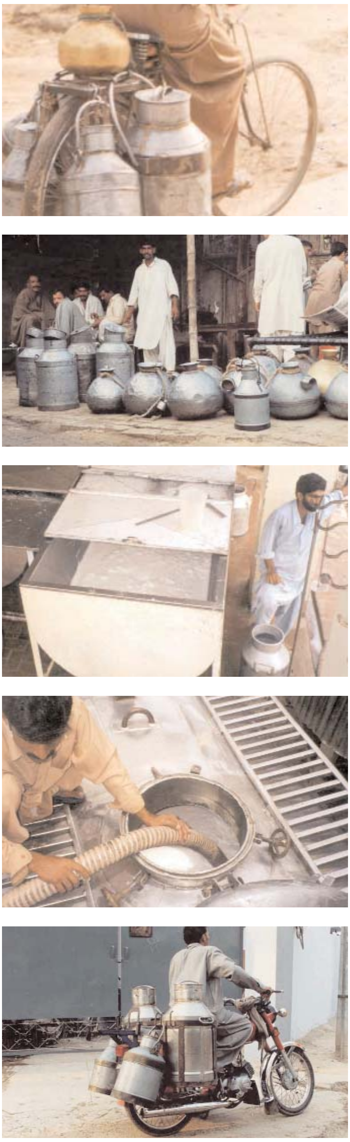
Dairy industry and middlemen both receive their supplies from rural families of which a majority is small, in fact micro producer.

A Sujag study shows that more than half (51.2 percent) of a milk collection from rural areas is contributed by small herd families with only one in-milk animal. The poorer the family the more milk it sells. The study based on a survey of 422 families in six districts of Punjab shows that the small herd families that sold their entire milk produce (4.8 liters) were ploughing less than an acre of land. While families with 15 acres of land under plough refused to sell their 10.7 liters of milk. However, families with same land ownership and more milk production sold milk only after saving 10 liters for home use.

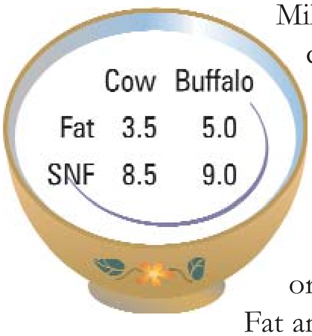
The decision to sell milk is determined by the families access to other livelihood resources. If they are not under any economic pressure they prefer a home consumption level as high as a liter a day per person and refrain from selling it. This shows that the milk supply from rural areas is not driven by surplus production, it is rather poverty driven.

Market pressure for higher per acre yield is making cropping intensive leading to an increased demand for cash in-puts. Cash is, however, the rarest commodity in rural economy. Moreover, market prices are declining or are beyond the producers' control. Farm out-put maybe on the rise but farmers' net income is sliding down. The farmers are trying to fill this widening gap by selling their essential home milk supply.

The farmers cannot take up milk production as an alternative economic activity either, as dairy farming is not commercially viable at current market prices. This is evident from the static fodder crop pattern noted above and a decrease in average size of large herds in last two to three decades. It is not surprising then that commercial or intensive dairy farming is non existent in Punjab despite massive milk trade.



A chain of middlemen makes the most out of milk trade while the producers and the consumers both suffer.



Milk is mixture of fat, proteins, carbohydrates, water and a number of other constituents present in very small quantities. All the constituents except fat are collectively named solids-non-fat or SNF.

Fat and SNF can be easily measured using simple lab equipment. These tests are used to measure the quality of milk and are now routine at all milk purchase centers. The above graphics shows the standard compositions (in percentage) set by Pakistan's food laws. Buffalo milk is fat rich and is preferred over cow milk by consumers.

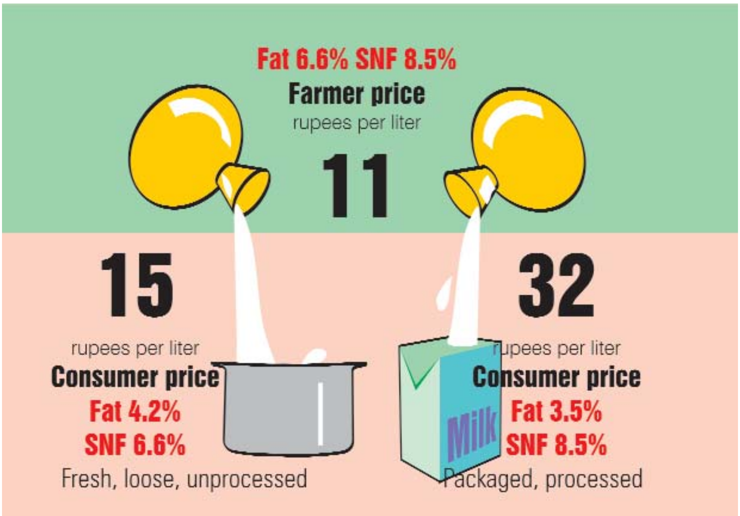
These percentages however vary with the season, quantity and quality of the fodder and the breed, age and stage of lactation cycle of the animal. Specially, in case of buffaloes fat percentage varies between 4 to 9.

Milk flows through a chain of middlemen to reach urban consumers or the processing industry. First comes the kacha dodhee, the village based middlemen who collects milk from farmers door steps and pedals it to the next buyer - pakka dodhee. They generally have milk storage and chilling facilities and have contracts with bulk buyers. These buyers in turn are either suppliers to industry or urban retailers or are industrial consumers themselves.

Price of milk being paid to farmers is ridiculously low. It is, in fact, less than the cost of production.

Farmers are paid on average Rs 11 per liter by village based middlemen. The price varies owing to a number of factors.

In winter milk out put almost doubles compared with low yield summer and monsoon period, depressing farmer price of milk. An advance payment from dodhee to farmer also enables him to suppress milk purchase price. Moreover, the declared price is for the premium quality milk. The milk buyers have themselves set 6 percent fat or 15 percent total solids as purity standard. The price of



each batch is adjusted in proportion to its tested fat and SNF contents. This means that 100 liters of buffalo milk with five percent fat fetches the price of 83 liters despite being unadulterated and pure according to Pakistan's food laws. Similarly pure cow milk having 12 percent total solids gets 20 percent less when measured against the standard of 15 percent total solids.

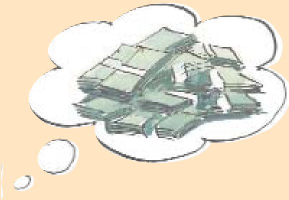
The farmers cannot independently verify buyers' assessment of the quality of their produce and have to accept whatever is offered. They are invariably cheated of upto 20 percent of their due payments by the buyers.

Farmers have no means to contest fat and SNF assessments of buyers. They are invariably cheated of upto 20% of their due payments.

The above graphics shows the composition and price of milk at farm gate and at the consumers' end calculated by Sujag through a survey. The exercise included collection and analysis of over hundred samples each from Lahore city and villages supplying milk to the city.

The local milkmen pay farmers 11 thousand rupees for 1,000 liters of milk. They take out 12 kg of fat from it and add 300 liters of water and sell 'the milk' at Rs 15 per liter. This generates a margin of up to Rs 9.90 per liter for the chain of middlemen involved.

The companies also pay farmers the same amount of Rs



One may never be able to decide whether it was the egg or the chicken first. But one can know for sure that it was the packaging and not the milk first, in case of packaged milk in Pakistan.

Packages Limited, Pakistan's biggest paper manufacturer, leased in 1977 a small inactive milk sterilization plant in Lahore to test its new liquid holding paper. Packages had a joint venture with the original inventors of the special paper, Tetra Pak of Sweden. The UHT milk in paper cartons proved to be successful in Pakistan's climate compared with earlier experiments of pasteurized milk refrigerated in polythene bags. Packages created in 1981 a company Milkpak.

Milkpak became the brand leader in packaged milk market. It had relied heavily on the limited market evacuated from peri-urban producers under duress of the municipal authorities. Nestle joined Milkpak to form Nestle Milkpak in 1988. It enabled the business to pump in millions to develop packaged milk market. Corner stone to the new game plan has been a nasty TV campaign demonizing small peri-urban producers. Nestle provided strategic depth to the business concern as well by concentrating more on powdering, value added products like infant formula, and export orientation.

11 per liter. They take out a hefty 31 kg of fat (desi ghee) from a thousand liter of pure milk and sell the remaining low fat milk after processing and packing at Rs 32 per liter. This generates a margin of Rs 24.66 per liter for the companies to bear all the expenses and enjoy profits.

Another method used to get the standardized milk out of the one purchased from farmers is as follows. Adding 800 liters of water to 1,000 liters of pure milk reduces fat percentage from 6.6 to 3.5. But it also reduces the SNF percentage specified in Food laws. To make up this shortage one has to add 83 kg of skim milk powder to the 1,800 liter mixture. Skim milk powder is available internationally

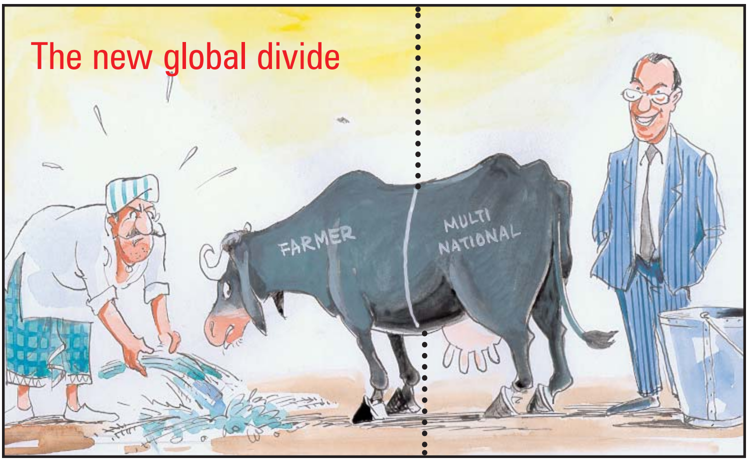
Center piece to the packaged milk marketing strategy in Pakistan is a countrywide TV campaign. An over ten-minutes long docu-drama is aired frequently. It paints local milkmen as infectious animals whose elimination is the only way to safeguard public health. Horrifying wide-angle close-up shots and derogatory language declares *gawalas* as cruel villains. They are shown blowing cigarette smoke in people's faces and mixing dirty pond water in milk. In contrast the companies are shown doing all the good to a gift that nature made so great but only forgot to pack. The milk packaging is compared to peels and shells.

Tetra Pak being the sole provider of the packaging material to the dairy industry, has an interest in expanding market for this milk. The campaign is thus either run by Tetra and/or by Pakistan Dairy Association, representative body of the industry. Though Nestle dominates the market, a joint ownership of the campaign by all the companies helps establish the impression that it is for public good and certainly not for petty interests of individual companies.

at $1 per kg and locally at retail level at Rs 112 per kg. Packaging and selling this 'pure milk' gives companies a margin of Rs 40.17 to 44.30 per liter.

Everybody in the milk business is rich except for the one who actually produces the very thing. This doesn't hold true for small farmers alone as big farmers also make no profits. As noticed elsewhere the big producers are retrogressing steadily.

In fact the current purchase price of milk is less than the cost of production. This disincentive has blocked the way of any changes that increased demand could have brought to the way farmers produce milk. The production side is



Corporations, like Nestle, have been living on heavily subsidized western dairy farming system. They are now substituting it with cheap supplies from small production units run by very poor Pakistani families.

still organized and managed in the manner it used to be when milk was a subsistence activity and an important pillar of food security. Yet unlike subsistence days, it is now being traded in huge quantities.

One may ask, if it is not profitable why do farmers sell milk? Well, what else they can do. They have already exhausted their land and human resources but are unable to get out of the clutches of poverty. Selling milk is like selling the proverbial family silver for them now. The rising bulk of the milk trade only represents lack of economic opportunities amidst growing poverty in agriculture economy.

Growing bulk of milk trade only represents lack of opportunities in agri economy amidst rising poverty.

Even more grim and ironic is the fact that selling milk makes them even poorer. What nutritional value can a farmer buy for Rs 11, made by selling a liter of milk? How about half a liter of Coke?

The milk economy has become a vicious cycle. The market offers no incentive on milk production. The overall poverty in agriculture economy is on the rise. The farmers sell milk produced for family consumption to get out of the poverty. They end up even poorer as they can't buy from the sale proceeds, nutritional value equivalent to what they have sold. That's why we call this milk trade a drain on nutrition, a threat to the second most important pillar of food security after wheat.

Farmer's loss, however, is the industry's gain. The dairy industry in Pakistan has lived an artificial life for much of the period. Up to 1970s, it owed its existence to the huge surpluses of western dairies dumped in the country at very low prices. Then in 1980s it comprised the highly over written and non performing dairy projects offered as bribery by the banks to a pro-military political elite. The 1990s however saw some more dramatic in this sector. It marks the entry of the world's biggest dairy and food giant, Nestle, in the country.

Percentage share in world

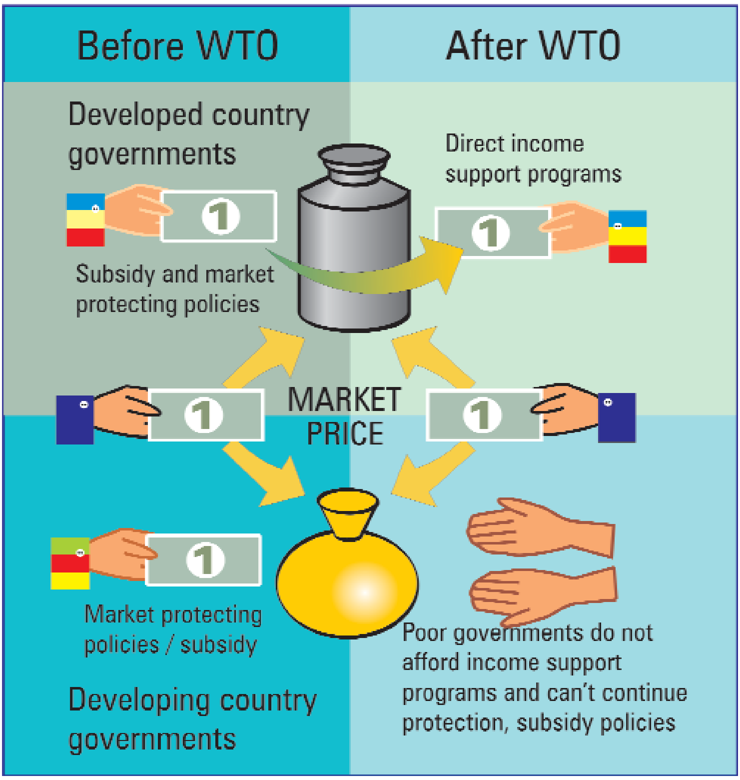
MILK PRODUCTION	1995	2005	Growth 95-05
Developed	44.4	40.8	↓ 8.1
Transition	21.1	18.7	↓ 11.8
Developing	34.5	40.5	↑ 17.4

MILK USE	1995	2005	Growth 95-05
Developed	41.4	37.7	↓ 8.9
Transition	20.4	18.0	↓ 11.8
Developing	38.2	44.3	↑ 16.0

Based on a FAO study

Developing, and not the developed, countries offer dairy dollars growth.

Nestle products have been there on Pakistani shelves for



quite some time. The company entered the country with more than the improvement of its sales in its mind. The factors that motivated Nestle decision also define features of global dairy scene.

Can Pakistan enter dairy export markets? That is a $4billion question.

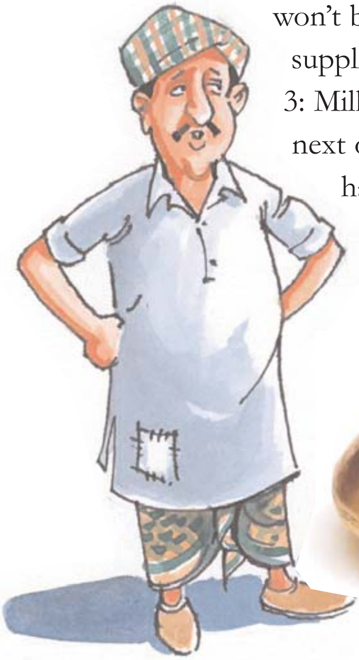
1: Milk and milk products markets in developed countries have touched saturation. Consumers in Europe and US have in fact been over consuming. It has made obesity a national problem in these countries. The markets there are thus bound to decline. In contrast, markets in developing countries are on the up swing. Studies show that milk consumption rises with incomes. Main centers of growth identified are Far East, Middle East, South Asia and Central Asia. Pakistan is at the hub of these blooming markets.

2: New economic policy regimes took over the world in 1980s. Privatization and deregulation became the buzz words and subsidy and state support went out of fashion. It was evident that in the years to come the pampered dairy farmers of Europe won't be getting at least the same level of subsidies and in turn the dairy industry won't be receiving cheap raw material supplies from home countries.

3: Milk rich Pakistan is the natural next option. Dairy farmers here have never tasted any kind of state support and have no political clout. They

Cola drink: Rs 30 a liter

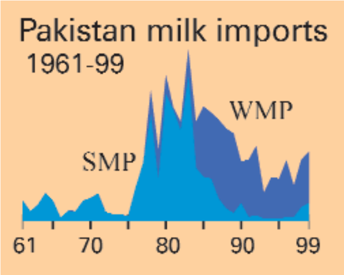
Bottled water: Rs 15 a liter



The level playing field?

Pure milk from small farmers: Rs 11 per liter

Pakistan has been a favourite dumping ground for western dairy surpluses. Fat free powder imports surged to unprecedented and highly inflated levels in late 70s. We were told that this nutritional influx is for the good of the poor here. The massive stocks available at lower than the local cost of production over took urban markets, jolted peri-urban production system and made local dairy processing unfeasible. The tide then started to settle down. Big corporations took over the market in 90s, and started substituting imports with 'local production'. Corporations now oppose imports into Pakistan at subsidized rates. They are convincing everyone that exporting milk from Pakistan, not importing, is for the good of the poor.



SMP: Skim Milk Powder
WMP: Whole Milk Powder

are very small micro producers that are unorganized and already crippled by poverty. They can be coerced to accept any rate for their produce. Any company will find this too tempting. For Nestle, Pakistan is not only a growing milk market, it is also an unmatchable source of cheap milk supplies.

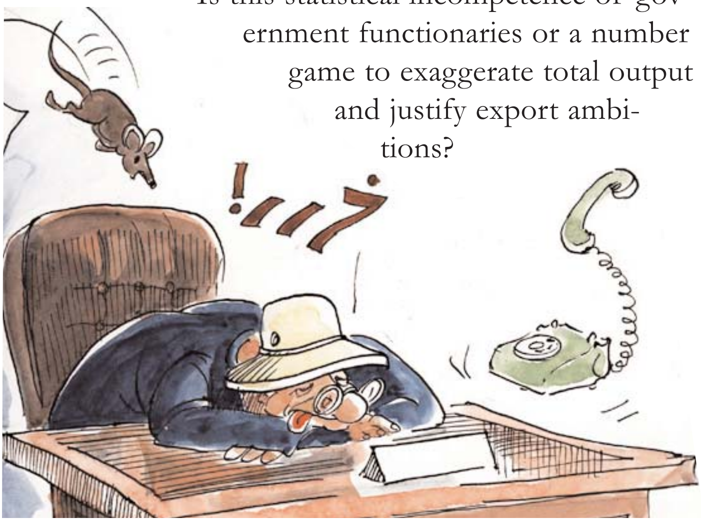
4: Nestle has kindled export ambitions in Pakistan as well. The company has already made the country a dairy exporter for the first time in its history.

Pakistan's export profile lacks depth. It is too much dependent on raw and semi processed cotton products. The country's economic planners are desperate to diversify. Milk exports seem to be a bright option to them. Experts have calculated a milk export potential of up to $4 billion. (Pakistan's total exports for 2002-03 stand at $ ...) This confluence of short term interests of the State of Pakistan and the dairy corporations could prove fatal for the country's poor. It will snatch a vital source of nutrition from them to serve the rich consumers in other countries and without giving local poors any alternative. This nutrition drain will increase poverty.

The official Punjab data shows that milk production in the province has more than tripled (218.6% increase) during the period 1976-1996. The number of in-milk animals however has only doubled during the two decades (110.2% increase). The additional increase in milk through put is attributed to a 51.6 percent rise in per animal milk yield.
We have serious reservations about this data. There are no suggestions that fodder availability has improved in any way. Growth in fodder crop area has almost been zero and rise in production quantity very modest. Increase in production of other crops, yielding more waste to be used as fodder, is also not enough to cater to the massive increase in number of animals. A very optimistic statement would be that our animals are as hungry today as they have been two decades ago. There are researches and data saying that breed quality is getting poorer. How could per animal yield increase without improvements in breed and increase in fodder availability is a secret well guarded by the statisticians of our government.

The official documents calculate milk production by multiplying numbers of in-milk cows and buffaloes to a flat average yield of 6.194 liters per cow and 7.500 liters per buffalo. Sujag studies show that these figures hold only for well-fed animals of large herds while animals of the poor living in small herds are far less yielding. If only this factor is added to Punjab data the official milk output would be revised downward by 19.2 percent.

Is this statistical incompetence of government functionaries or a number game to exaggerate total output and justify export ambitions?



State or no state

The major stake holders in the dairy, or broadly speaking the entire agriculture, sector are the farmers and the corporations. Farmers are small, powerless and unorganized. They have just woke up from subsistence slumber and trying to come to terms with harsh market realities. While corporations are massive in size and power besides being exclusive owners of technology and information. They were born to colonial imperialism and grew with industrial revolution.

What could be the power equation between the two partners of an economic activity when one is a small 4 liter a day milk farmer and the other is a $40 billion annual turn over corporation?

State is the only hope of the small economic entities. It has to put its weight behind the hapless micro-producers to straighten the huge imbalances. It may be termed as out of fashion or even archaic by the neoliberal advocates of free market. But we know they are lying as that is exactly what has happened in the so-called developed countries. State's role in the market has not ended even there. It has only become more complicated and subtle. From blunt regulations and open protections, the strategy has changed to tacit support and covert manoeuvres.

The developing countries have to devise new strategies to protect the interests of their people. They have to fight for and win space for negotiating more equitable solutions to the world trade in agriculture.

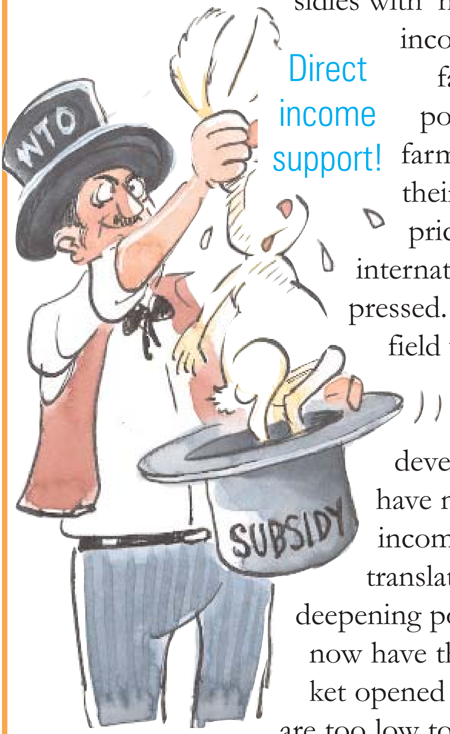
Parameters of the State's involvement can however be redefined learning from the experiences of the past century.

The experiments of State ownership of units of goods production and service provision have not yielded the desired results. Centralization and bureaucratization make these institutions inefficient, non-productive and callous. Though theoretically these are owned by the people through a representative government, the bureaucracies in fact become a vested interest group themselves and their biggest interest becomes to maintain the status quo, resist change and oppose creativity.

Sujag, thus is not for state-owned dairy collection, processing and sales units. We are apprehensive that it might

Subsidies in developed countries spurred massive out put flooding world markets. This facilitated western dominance of food and agri raw material markets through glutting. Availability of cheap, at times below local cost of production, agri produce in world markets also distorted and hampered transformation of production systems from subsistence to market in developing countries.

The West sees spendings on subsidy as a burden now and is perhaps not interested in the dumping strategy anymore. Yet wants to retain its controlling status in the market. They thus have replaced 'market distorting' subsidies with 'hands off' direct income support to their farmers. This makes it possible for the western farmers to throw away their produce at low prices and thus keep the international prices suppressed. In this level playing field world, the same low prices hold for poor producers of the developing countries who have no direct or indirect income support. This translates into persistent and deepening poverty for them. They now have the entire world market opened for them but prices are too low to support even a very basic living. Who needs an open world?



become as repressive as its traditional alternative, the company.

The failure of the exclusive State ownership of means of production is hurriedly interpreted as 'the end of the state' by the neoliberal economists and used as a pretext to force poor governments into all sorts of deregulations and privatizations.

The 'failure' of state in fact points out to the highly uneven development within the neo-colonial states. These states were assigned different roles in the global imperial strategy and institutions (or parts of these states) responsi-

ble for implementation of this strategy were allowed and supported to develop, mostly at the cost of other institutions. Phenominal growth of army in Pakistan is a classic example. The failure is caused by this lopsided development and the solution is to balance out differnces.
The State's role to architect the economy, lay down the infrastructure and define the legal spaces is here to stay. Sujag wants to strengthen this but with the common populace, the working masses at the center of all the policies.

Food or commodity

A European or American dairy farmer producing thousands of liters of milk a day, goes to the town market to buy the few liters he needs for his family. To the utter surprise of many a highly educated experts, that is not the case in Pakistan.
Milk is the second most important pillar of food security after wheat in this country. If a rural woman wants to have an insight into the well being of another's family, that is what she will ask: "Do you have home milk?" "Oh no, poor you," will be her response to a negative reply.
Selling milk is a recent phenomenon. A few decades back it was considered immoral and almost a sin to sell this gift of God. This rather basic level protectionism in the garb of morals ensured abundant supply and thus healthy living for everybody in the family.
There is no evidence suggesting that milk production will move to commercial farming in the next few decades. In every likelihood, it will continue to be produced by small families.
The State policy on dairy sector shall see milk as a source of nutrition for the family that produces it. Selling shall be associated with the surplus and the bulk of the trade shall rise with increase in production.
If we really need to nurture export ambitions, growth in milk production should be stimulated through market based incentives to the producers. The small incentive of an increased Support Price for wheat did the trick in 1999, making this ardent importer of the food grains a surplus producer for the first time in its history. Support Price for milk defining the production cost to farmers and offering some premium can give the milk production the required boost.

One can find an expert every now and then on some TV channel telling his/her misinformed compatriots that we as a nation are wasting a lot of golden opportunities of earning 'precious' foreign exchange. We are asked to pack our mangoes to China, cargo dates to Middle East, send oranges to Far East and export milk to Central Asia. And eat what? Grass! No probably we will get a timely consignment of high energy biscuits as a famine relief for our farmers from international charities.

Experts and policy makers behave like if not exported these delicious, nutritious gifts of nature will go waste. In fact these are never wasted and eaten by local people (or is that a wastage in the global village?) that are already a nation of underfed, sick and malnourished men, women and children.

And who needs this precious foreign exchange? The State does to service the debt it owes to international monetary institutions or to go around the world shopping military hardware or to import Coke concentrate and burger patties. That is senseless.

We must acknowledge one thing before boasting of making Pakistan a milk giant of Asia. The massive dairy exports of Europe, Australia and New Zealand are driven by a production glut inspired by financial assistance from their States and backed up by technological advancements in animal sciences. Pakistan's dairy sector by contrast has never seen any kind of state support and neither has the sector tasted any technological transformation, let alone a revolution. The poor of this country are producing the amount and quality of milk that they have been since centuries and in the same old fashion.

The market forces and the state policy must inspire some progressive changes in the milk production side, if they really intend to develop dairy sector. Otherwise the whole activity as being conducted presently is no less than looting hapless small families of their last penny.

National or transnational

Can exploiters be identified from the color of their skin or their ethnic background? What can a very effective nationalist model of economy offer to its people? That they will only be exploited by their compatriots and not by foreigners. We think that nationalism and transnationalism are only two successive stages in the development of capitalism.

The company nationalism is based on a market protected by a State through tariff and non-tariff barriers. A national market has geographic and demographic limits and when an enterprise out grows the potential of its local market, it looks towards foreign markets for growth. It wants to be treated at par with local competitors in foreign markets and becomes an advocate of transnationalism.

Advances in communication technologies and transport infrastructure have changed production and marketing concepts altogether. There are textile factories in Pakistan that do not sell a yard of their produce in their home country while Pepsi Cola sells here and sponsors National Day celebrations. So who is a Pakistani, the one who is producing here as a sub-contractor of a foreign marketing enterprise or the one who is selling here as a franchise holder of a foreign producer?

Nationalism has been reduced into an advertising peg, a marketing strategy that has sales value in some countries. Transnationals, like Pepsi Pakistan, use this peg to keep local competitors at bay. While the local and 'real national' enterprises do not have millions to invest in media to establish their nationalist credentials in public and in government's eyes. Transnational corporations have even been cashing in on India Pakistan war mongering and hatred hypes by using these as advertising pegs.

Dairy transnationals have been dumping Western surpluses on Pakistan market all through 80s. Substituting imports with local production should have been a priority with nationalist policy makers. Well, this is now a priority with Nestle in Pakistan. They are furthering our nationalist agenda by substituting imports with local production. Not only that, they are kind enough to have introduced us in dairy export markets. An importer Pakistan was a profitable proposition in 1980s, an exporter Pakistan has become a lucrative option in 2000s.

In older paradigms one could say that the foreigners take the profits back to their country but locals invest that in their homeland. Countries like Pakistan allow foreigners 100 percent repatriation of profits while Pakistanis can keep their money in foreign banks and in foreign currency. You don't know where Nestle has its coffers, yet you can expect that 'Pakistani' dairy bigs will be having their money in Swiss banks. With profits and money flowing so freely, almost without resistance where does nationalism stand? One could argue that local companies generate employment as against foreigners. But this isn't true either. The issue of being labor or capital intensive varies from sector to sector and with the choice of technology. A local company will also like to choose a technology that is capital intensive and more profitable.

So what really makes a company national or transnational is not a political or historical or philosophical matter. It is only that small could survive being 'national' and big require to be 'transnational.' The economic environment doesn't need nationalization. All it needs to be is to see economic enterprises as livelihood resources and not houses of profit. Be pro small and design economic environment to promote horizontal integration and not vertical growth of enterprises.

Company or cooperative

The concept of cooperatives offers an alternative organizational model to the small producers to develop into a force. That is the way for the small units, rendered insignificant by the shear size of companies, to regain a foothold in the mainstream economy. Yet perhaps, cooperatives are more than a survival strategy.

Cooperatives are about market and profits. No doubt about that. These operate in the same economic space as companies do yet these are significantly different. The company puts all the resources under centralized control of a vertical management structure. The company eats up smaller competitors to fulfill its desire of perpetual growth. In contrast the cooperative knits small production units together into a network on the basis of the commonality of their interests. It uses the same principal of economy of scales as companies and operates as one force in the market without killing members' individuality.

In company, a shareholder has votes proportionate to his/her investment. This effectively puts financial resources of numerous small investors under the control of few bigger investors making them factual owners of the 'public' enterprise. In comparison cooperatives though pay dividends to members in proportion to their investment, but decision making follows the rule of one member one vote. This is the vital difference between the two organizations.

The concept of 'cooperatives' developed in 18th century Europe as a humane intervention in the cruel industrial capitalism that was fast changing the continent. Its much distorted form reached the colonies in early 1900s as cooperative laws and implemented through a callous administration. Many believe that it was a half hearted and cosmetic measure by the British Raj to check the virtual take over of the economy of India by money lenders. Wether it achieved the political objectives of the colonial rulers is a different subject, the neo colonial rulers in Pakistan however bothered little to revamp or reorient the law and the associated administrative set up.

The porous boundaries that the co-op law defines and the corrupt and ineffective admin that guards it, make it a favourite vehicle for fraud. Cooperatives are synonymous with fraud and plunder in Pakistan. Much of this bad repute has roots in the multi-billion rupees finance cooperatives scam of 1991. Tens of thousands of investors were deprived of their savings by 'private banks' operating in the legal space apparently reserved for cooperatives.

For Sujag cooperative means structured horizontal integration of units of livelihood for the common benefit of participants. Sujag wants to organize producers into cooperatives that define and develop markets and production technologies.

Cooperatives may be a way out for the small, specially when the huge corporate bulldozers are zooming in, yet are these the panacea, the way forward? Can there be a cooperative of resourceless people? Can cooperatives serve those who do not have the requisite purchasing power? Can cooperatives co-exist with companies in the same economic space? If the company could decimate the society into greedy, selfish individuals, can the cooperatives as a dominant economic model make inter-dependence of individuals work for the collective well-being? If the cooperatives grow into a movement, what lasting impacts will it have on the nature of the State?

These are the questions that could only find answers when the cooperative model is put to practice.

Milk handling, transportation, processing, preservation, and packaging is a 'great science' that has fathered a number of hi-fi technologies and 'revolutionized' our lives many a times during past decades. Consumers are daily reminded through media that without these interventions milk would have been an infectious bovine secretion.

Theoretically, milk of a healthy animal should be free of germs. It gets contaminated during handling and storage and becomes fit for human consumption when pasteurized at 70C for 30 minutes.

In older times milk was stored for shorter time periods minimizing risks of contamination. A Sujag survey revealed that every fifth family in Lahore buys milk twice a day though many of them have refrigerators. That means they get morning and evening supplies, following traditions of their parent families and expressing their preference for fresh.

In Pakistan, milk is always boiled before consumption. Unboiled milk is considered another commodity with specific uses. One can find families that boil pasteurized or even UHT milk. *Karrhni* is a special stove that uses dung as fuel to give very low heat. Milk is put on these for hours to simmer and become fit for consumption. This is being practiced in our villages since centuries.

So all that one needs is that milk should get to the consumers fresh with minimum storage time and used only after boiling it. Who needs all the expensive technologies and difficult terminologies then? Longer shelf life and attractive packaging are requirements of dairy industry and not of consumers.

Power or people

Technological input is the second most important aspect of production after human organization. Human capacity to find solutions to problems by employing mechanical, electric, electronic and managerial knowledge has expanded vastly over last few centuries. Its importance has risen to such an extent that it has itself become a precious commodity. The ownership of knowledge has also slipped from state-owned research institutions and academia to private companies. That are only interested in making profits, mostly quite quickly too, and without accepting responsibility for

Milk has a short life span of about four hours. It must pass through the producer-middlemen-consumer chain within this time period. All the partners need to be efficiently knitted and committed to each other to make this time-limited transaction a profitable proposition. Traditionally, this was done in Pakistan through the *baandh* system.

Baandh (literally meaning binding) are unwritten agreements ensuring supply of specific quantity of milk at a fixed rate and time. These are backed by a traditional dispute settlement system and violations could tarnish ones repute for life. The agreements are renewed in peak season (November) every year.

The *baandh* system offered no space to opportunism and built a rather equitable power equation between all the stake holders. But that was before the advent of technology.

The middlemen can now preserve and store unlimited quantities of milk. They are not under pressure of buying quantities on pre-fixed rates. So they will offer farmers the mysterious market rate - which actually is whatever suits them best. They will then process and pack milk and increase its shelf life to months. So they are not pushed to sell it then and there.

Instead of engaging them into an equitable *baandh* relation, they can now bondage their consumers through another technology - media. The subliminal war of images and perceptions has only one winner - the one who invests more.

The producers and the consumers both are now powerless subjects of the middlemen - the industry. Thanks to science and technology.

social or environmental fallout of their interventions.

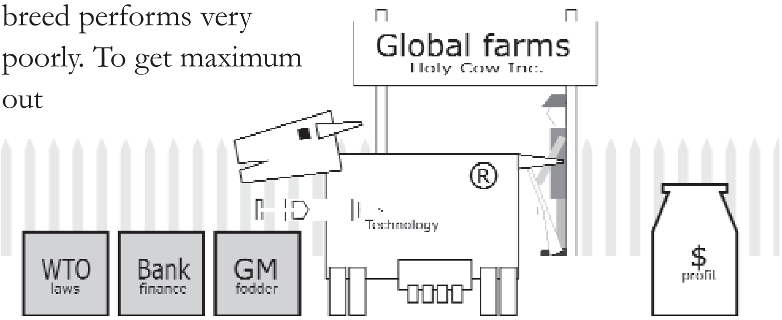
All this has turned technology into a power tool that is used to beat out competitor and subjugate consumers. Lust for profit maximization and the dream of monopolizing market sets the direction of development of technology. Scientists and technologists are serfs of companies while the marketing teams set the agenda of research and development.

Can the technology made to order by the companies be used by cooperatives to more humane and eco-friendly ends? Can a socially, environmentally responsible co-op technology compete with the companies?

The question of technology is important as it impacts and dictates a number of aspects of an economic venture.
It decides the scale of operation. One has to optimally utilize installed capacity to remain in positive columns of profit. The capacities are not available in all denominations. Even the minimum capacity of the latest technology would be mind boggling. If a venture is to qualify as a modern and technologically competitive, it must be big. The bigger, the better.
The choice of technology also decides the human and the financial inputs required in a project. A progressive technology would tend to minimize human input by raising financial input. This necessitates involvement of banks and links the project to international financial system. Invisible players like 'the bank' and 'the investor' starts shaping the venture and real people made of bones and flesh become least important disposable commodities. How could the scientific knowledge be accessed and utilized for the common good of humans without falling into this trapis a big questions?

Intensive or organic

Animals of this country get a rebuke from experts every now and then for yielding so little. They are compared with proficient cows of the West that have caused a milk deluge in world markets. Envious local experts have their summaries ready for the government laying out plans to 'replace' the current subsistence system with a modern one where companies research technologies, banks set cash flow, market dictates targets, machines milk and animals perform obediently.
Many enthusiasts have imported exotic breeds and tried to emulate Western models. But it has not worked. And it won't. As genetic make-up is only one of the factors that can help improve an animal's productivity. Quantity and quality of the fodder is another. An underfed high yield breed performs very poorly. To get maximum out



of these modern animals, one will have to increase fodder availability by putting more cultivable area under this crop. This would create a competition between food grains and fodder crops.

(In Punjab, area under fodder was second largest after wheat till 1970s. Cotton has pushed it down to third position in the following decades.)

In our system of production animal concentration is evenly spread over a vast area and across a large number of people. Crop stubs that would otherwise be wasted are fed to animals. This small scale mixed crop and livestock system enables livestock wastes to be returned to local fields maintaining soil fertility and organic matter content.

In contrast western model favors concentration of livestock in intensive dairy operations that rely heavily on mechanical and chemical inputs. Grown fodder has to be transported and waste disposal becomes a big problem. Intensive dairy animals are born through a careful selection of the most profitable set of genes. They grow on hormone injection and are kept alive by antibiotic shots.

High yield animals are not just a remarkable genetic composition discovered by Western experts. They are a part and parcel of a very different production system that can work with the kind of State support that only developed countries can offer to their dairy sectors. These animals cannot perform outside that system.

Moreover, corporations hold patents and exclusive ownership rights to all the technologies and chemical and biological interventions that guarantee high yield. A large scale import of these would in fact benefit corporations through royalties. Local level gains, if any, would only be marginal byproduct of the global game of development. An intervention into our system of production must not be based on shear fascinations. Livestock is a very important livelihood resource for millions of people here. Our animals are not thankless inefficient creatures and our farmers are not poor in animal husbandry. In fact they have given the world, one of the best breed of zebu cows - Sahiwal - that is renowned for its performance and toughness.

Both our farmers and their animals have a rich and content past. But they lost to the cruel market politics of colonial armies. A change in their lives, a return of the good days would only come through a long and hard struggle.

Punjab Lok Sujag is a group of people committed to working towards a society that ensures equitable access to livelihood resources for all and respects their rights irrespective of race, faith and gender.
Sujag believes that this could be achieved through organized conscious efforts and by institutionalizing these efforts. Sujag is of the firm opinion that the change cannot be imposed from outside and through legal and administrative measures alone. It can come only as a result of voluntary involvement of communities in designing and implementing social, political and economic interventions meant to change the existing system.

Sujag is working with rural communities in Punjab. It is leading a public health initiative in an area with extreme iodine deficiency located in Depalpur and Pakpattan. It has adopted a very innovative communication strategy using theater and puppets and has been successful in motivating voluntary involvement of local individuals and communities. It is raising hopes of turning near failure of iodine supplementation through common salt into a success story.

Sujag is working with a number of small farmer communities and others involved in dairy production and business. This booklet offers a summary of the work Sujag has done in this sector over last three years.

Making modern technologies work for the under privileged and the marginalized is another aim that Sujag is actively pursuing. It has developed a full text database of local English dailies with a focus on social sector as an on going effort. Sujag is also involved in development of an IT tool to transliterate the two scripts used to write Punjabi language - Gurmukhi and Shahmukhi.

Historically, Sujag is a spin off of an alternative and political theater group - Punjab Lok Rahs formed in 1986. Though Sujag has been in existence for quite some time, it became a legal entity in 1996.