

CONTENTS

Introduction	...	490
State	...	491
Fiscal Situation, Water, Power, Agriculture, Industry		
National	...	494
Plan, Inflation, Power, Stock Exchange, Economy, Agriculture, Plantation Crops, Industry, Foreign Trade, Loans and Aid, Human Resource Development, Arivoli Iyakkam, Science, Health, Employment		
International	...	505
Bretton Woods Twins, IMF and SDRs Creation, World Bank - Fund Conference, World Bank on US Poverty, ADB on Asian Economy		
Other Items	...	507
IIC Panel, National Centre for Industrial Harmony, 125th Birth Anniversary Celebration - Srinivasa Sasthry, World Tamil Conference		
MIDS News	...	510
First Article	...	511
Safety and Health of People at Work in the Manufacturing Industries		
— W. A. Balakumaran		
Second Article	...	518
Philosophy of Education - Some Thoughts		
— Malcolm S. Adiseshiah		
Special Section		
1 Gender and Social Reform : Discourses of Nationalist and Dravidian Movement in Colonial Tamil Nadu : An outline - S. Anandhi, Indian Social Institute, New Delhi.	...	522
2 Dalit Women : The conflict and Dilemma - Annie Namala, Dalit Action Research Centre, Chittoor	...	527
3 Labour Force Participation of Women in Rural India - D. Jayaraj, MIDS	...	535
4 Methodological Issues in the Study of Gender and Caste- Kalpana Kannabiran, ASMITA, Hyderabad.	...	550
5 Women and Science - Rachel George, MS University, Baroda.	...	561

Malcolm S. Adiseshiah

I regret to announce the demise of the Founder-editor of the *Bulletin* after a brief illness on 21st November, 1994.

Like everything he did, he had planned to perfection the scope and content of the "Bulletin - Madras Development Seminar Series" and executed it with indefatigable energy till his very end. For twenty four years, ever since its inception, he wrote the 'editorial' in his inimitable style for every one of the eleven issues per year, providing a bird's-eye-view of the economic transformation taking place in Tamil Nadu, India and in the international scene, commenting on its significance and providing a critique of the process of change. With a hawk's eye, he sifted an enormous mass of data from government and private sources, economic and financial newspapers, working papers and research studies and from the innumerable reports, analysed the evidence, and synthesised the results to form a continuous, yet critical, narrative of the process of development itself.

For him, the production of "Bulletin" was a labour of love. The birthpangs were sharp; for he devoted the last four days of every month in writing the editorial, mostly in his long hand, and in organising various other material that went into the issue. This he carried on relentlessly despite the heavy demands on his time by the many important positions he held, whether it was Vice-Chancellorship of Madras University or Membership of Rajya Sabha. His personal reputation for punctuality was transferred to the production of the Bulletin also, and the Bulletin had gained the enviable reputation for its unbroken publication, right on time, in all these 24 years. For this issue also, he had completed his editorial in the last week of October.

We were aware that his style was unique and that it would be impossible to replicate it. That was why we had announced in the May-June 1994 issue that the Bulletin would cease publication from mid 1995, when we proposed to replace it with a new journal in its place. But events have overtaken us. This will be the last issue of the "Bulletin". There will be a special issue soon to pay tribute to Malcolm S. Adiseshiah.

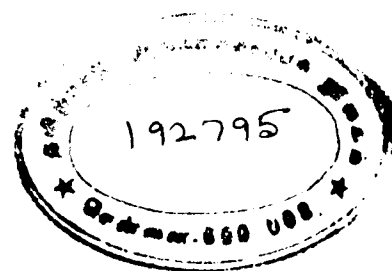
S. NEELAKANTAN
Director, MIDS
and Publisher

EDITORIAL – SOME HIGHLIGHTS

Introduction

THIS editorial for December covers the major developments at the level of State, National and International, along with some events in which the Institute is involved during the month of October. Starting with the State, the fiscal situation is reviewed in relation to the Multi-point Sales Tax and Tariff concessions made. In the power field, the commissioning of first South Madras Unit, the signing of power projects agreement with SEBs by NTPC, the import of coal, HUDCO generation of power from city waste, two stages of Jayamkondam and the wind energy programme are reviewed. In agriculture, the South West Monsoon and the start with the North West Monsoon are referred to together with the prospects for agriculture, the good kuruval harvest, the large paddy procurement, extending sericulture, marine exports and pluses and minuses of aquaculture. In regard to industry, the 5 new projects in October are passed in review - MAC group and its road building, Starlite which enters Tamil Nadu, the Rs.100 crore non farm sector programmes, the 4 TIDCO subsidiaries which are nationalised and the Tamil Nadu petro products. As far as existing projects are concerned the turn around of MFL, the resumption of production by Tamil Nadu Sponge Ltd, Pandian Graphics and the first six months record of MEPZ are noted. At the national level the Plan forecast revising the grain output target for the VIII plan, inflation and its causes, the power situation involving the World Bank guarantee, SEB's dues to NTPC, power projects being allowed foreign debts, the

US power giant setting upto 2500 MW plants, plant to generate 600 MW Hydel, NHPC's higher sales, and NTPC's Orissa unit providing power to the South are examined. In the Stock exchange field, the SEBI norm for merchant bankers transaction costs in primary market, the second phase of reform of SEBI and the national Stock exchange are reviewed. In the economy section, Mid term Plan appraisal, the Southern depository, the lowering of lending and savings rates, the slack season credit policy are passed in review. Reform and FDI restrictions the Inflow of funds without growth, Inter-state income comparisons, higher tax collections, removal of curbs on consumer goods imports, RBI on timely warning on debt servicing, the overall forex growth and its slow down, the IMF/WB call for better use of aids, the first round of PSU's disinvestment and the first implementation of the new drug policy are discussed. In agriculture, the good monsoon, its effect on production for the year, the shortfall in rabi and 66 per cent degraded land are passed in review. In plantation crops, the new areas brought under tea, the coffee board's appeal to government and the continuing of FSQ, the problem of the rubber users vs. rubber growers battle, the Tamil Nadu Board for Farm products and spices situation are reviewed. In regard to industry, the Industrial growth data, the level of foreign investments, MNC's bringing in better management practices, the number of sick industrial units, the upturn for capital goods production, SAIL's sales increase,



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the decline in copper availability, the forecast for sugar output and the integrated rural industrialisation are discussed. In foreign trade, the rising trade deficit and the reasons for it, particularly the plague and continued inflation, the trade figures for the first five months, the reduction in value addition export norms, the RBI permits to exporters on remittances, and the problem of defaulting exporters and the accelerating project imports are noted. In regard to aid and loans, the World Bank's loans on forestry in Tamil Nadu and anti-pollution for the country together with the large Danish loan and loan from Japan are passed in review. In regard to HRD, starting with education, the establishment of the Environment Development Institute, Sri Ramachandra Medical College becoming a deemed university, the 7 self-financing colleges coming up, the role of distance education and ADB support to it are reviewed. In the science area, Brand building through science, the establishment of the aquaculture institute for Tamil Nadu, the fuel saving machine developed by Bharathidasan University and the Science Park in Anna University are noted. In the health field Tamil Nadu's improving sound health care systems is passed in review. In the employment area, the extension of the Prime Minister's job scheme and its limitations, the labour displacement because of the country's capital intensive methods, the setting up of AICTE's accreditation Board, the reconstituting of Agricultural Education and science are examined. In the international field, review once again of the Bretton Wood Institutions, IMF's proposal to create a new round of SDR 36 billion, IMF and world Bank decisions at its annual meeting, the increase in IMF's access limit, and the ambiguous relations of the two institutions in relation to poverty are examined. With regard to other events with which the Institute has been connected in October the monthly IIC panel discussion on Centre-State Relations, the National Institute of Industrial Harmony which had

its annual general body meeting and seminars, the golden jubilee celebration of the Tamil Nadu Chamber of Commerce, 125th birth anniversary of Mr. Srinivasa Sasthri and the preparatory committee of the World Tamil Conference are referred.

State

Fiscal situation

The fiscal restructuring undertaken in the State at the end of September is welcome because it reverts back to a single point sales tax on a number of consumer items like coffee, nuts, biscuits, butter, ghee, milk foods, soaps, hair oil. It also exempts from sales tax many items including coir, charcoal, jaggery, pencil and ball-point pens, sericulture products, pickles and broom sticks. These two changes are to take effect from April 1, 1994 which results from a study of the problems brought up by industry to Government's attention.

Water

There is still some uncertainty about the World Bank loan of Rs.1200 crores for the State's Water Resources Irrigation Consolidation Project, referred to in previous issues, because of the World Bank's finances with regard to pricing of farm energy. Here, the State is one of the leading units to cause this World Bank disquiet through its free supply of power to farmers. Mettur reports reservoir level of over 200 ft at the end of October, the storage being 66.274 mcf. All major and minor reservoirs in the South have started experiencing inflows owing to the good start of the North East monsoon.

Madras city which was lagging during the first week of the monsoon (receiving only

20 mm against the normal 83 mm) has experienced a cyclonic storm in the last 2 days of October which is also extended to other coastal districts. (Chengal-MGR, S.Arcot, Thanjavur, Nagai Qualde-millet and Pudukottai districts). As a result, Madras received very heavy rains and the drinking water reservoirs are benefitted. (Poondi getting 21mm, Red Hills 19mm, Sholavaram 18mm and Chembarambakkam 28mm), Red Hills having a storage of 988 mcf. against the capacity of 2850mcf.

Power

Another important development in the State and other Southern States is the power projects agreement signed by NTPC with the Electricity Boards for the supply of bulk power from the 2000 MW Talcher II stage power project in Orissa. This again is to be welcomed as it is the first of many such efforts to come involving NTPC setting up of power stations in the eastern region to supply power in the South. Under this agreement Tamil Nadu will receive 318MW, 80MW Andhra Pradesh, 250 MW Karnataka, 233 MW Kerala, and Pondicherry 34 MW. One rather important feature of this project is that 300MW is unallocated and held in reserve to be used in times of emergency. As the State suffers complete black out from time to time because of over draws. This reserve position is to be welcomed.

Controversy has once more started between the Central Ministry and TNEB which proposes importing 1.5 million tonnes of coal, for its several plants. As this time this import is to be based on global tenders it should be acceptable. If high quality coal is imported, the imported coal could make a net profit of around Rs.50 crores.

Another innovative power project is the one being developed by HUDCO which will be converting 600 tonnes of Madras city's waste which is 25 per cent of the total, to produce 5 MW electricity. It would cost only

Rs.19 crores and should be regarded as an experiment to be extended in the entire city and other urban areas. The Lignite project at Jayamkondan is now being planned in two stages. The first stage being 600MW. This break-up would make the project more manageable. The State has also made rapid progress in the harnessing of wind energy for power generation. The State has so far harnessed 105MW from wind energy through private sources and 25 MW through TNEB; before the end of this year a further 70MW is to be added. With this programme, wind energy has the triple additions of being a renewable source, effective, reliable and economically viable. The Union Ministry of non commercial energy sources has assessed the viability of wind energy generation in the country at 20,000 MW, of which Tamil Nadu's potential is 2000MW.

Agriculture

The State has recorded for the 7th year in succession, a good south west monsoon. There are however various scarce rainfall areas as in the case of the Ariyalur, Jayamkondan and Andimadam belt of villages which were affected particularly, the groundnut crop. Now the farmers are looking hopefully to the north east monsoon to make a fresh start. The North East monsoon has started on time on October 20 and is bringing plentiful rains. Tamil Nadu State Planners foresee an excellent overall crop prospect for 1994-95; paddy has been targeted at 65.6 lakh tonnes including 18 lakh tonnes in the kuruval and 47.5 lakh tonnes in the samba season, so too the pulse target has been raised to 6 lakh tonnes. The parallel paddy programme operation which is being tried out in the State for three successful seasons in the Cauvery delta districts is entering a critical phase with the commencement of the north east monsoon. The harvest of the short term kuruval is being expedited so that the crop can be marketed quickly with the traders who are now swarming the market. The kuruval

harvest in the delta districts has recalled its peak with 50 per cent of the harvest already completed. The major part of the paddy crop to the extent of 1.5 lakh tonnes has been purchased by traders while the State Civil Supplies Corporation has procured only 20,000 tonnes as at mid October. The price situation presents a problem with farmers complaining of being exploited by the traders. It is here that the State Civil Supplies Corporation could act as a buffer. The sericulture industry is a major one in the economy of Salem and Dharmapuri districts. Here the withdrawal of the sales tax on all sericultural products by the Government has given the producers a boost. In 1992-93 the farmers, and industry faced severe fluctuations, making extraordinary profits in 1992 and suffering losses due to price decline in 1993. This situation is likely to be worsened as we move into the free market area, with the government withdrawing its procurement and support price actions under the new economic reform programme. The industry however is based with a large cocoon market particularly in Salem and a substantial infrastructure that has been developed by the Government. The Government needs to watch over the industry giving it the support, guidance and advice which is given to all countries which have a market based economy like Japan, South Korea, US etc.

Another area which is encouragingly increasing is the marine exports from the state. Its growth has enabled the various components which make up the marine export field to develop their own brands of shrimps both in raw and frozen forms. Here it should be noted that there is need for the marine exports to be expanded to such items such as cuttle fish, and squids. This is all the more necessary because the State Government and the State Pollution Control Board have decided not to get any environmental clearance to the aquaculture programmes in the state till the zones for setting up these projects are clearly earmarked. This will enable the ongoing tussle

between agriculturists and aquaculturists to be conducted. Aquaculture causes seepage of saline water leading to land aridity. The sale of land sometimes, voluntarily and sometimes brought about by market forces, has led to a degree of disposition of land by the farmers with the entry of large components like MAC Industries, ALSA Marine and Access Industries. The coastal farmer is not in a position to meet the pressure from these companies. Hence it is important that aquaculture in the State should be carefully surveyed and studied in order to mitigate its negative effects.

Industry

New Projects

Starting with the new industries in the month of September are:

- 1 The MAC group of industries have been granted approval for the construction of two by pass roads, one at Coimbatore and another at Hubly, Dharwad on a build - operate - transfer basis. This is part of the groups increasing focus on infrastructure to develop its own industries.
- 2 The Bombay based starlite industry has entered the State with a massive investment of Rs.1300 crores. It has established a copper smelter project and crude based refinery, both at the all weather port town of Tuticorin. This is from one point of view a good development for the industrialisation of the State. On the other hand the projects was rejected in Maharashtra on environment grounds which should be enquired into.
- 3 The State announces Rs.100 crore programme of assistance to the non farm sector in the State, 22 broad categories will be financed under this programme through NABARD and SIDBI.
- 4 Against its established policy of privatising the public sector agencies, the

National

Plan

The Agricultural Ministry has asked the Planning Commission to revise downwards the foodgrain production target for the end of VIII Plan from 210 million tonnes to 196 million tonnes. This is based on the current demand level which includes the capacity to consume as well as exports. Given the mass poverty in the country, the capacity to consume is related to those who have the resources to buy the grain in the open market or from PDS. This is the basis for downgrading the VIII Plan target.

The VIII Plan resources shortfall is now estimated at a rather large Rs.60,000 crores at 1991-92 prices. This means that if the Central and State sectors are not given additional budgetary support, the Plan will hence to be pruned.

Inflation

The annual rate of inflation is reported at 8.27 per cent for the week ending October 1. Once again this estimate is based on the provisional, not final movements of the WPI so that when the former becomes finalised there would be a rise of at least 2 per centage points. Even so, the current figure is based on price rise of fruits and vegetables, cereals and spices and in other consumer items.

Even on the basis of the revision of provisional figures, the Finance Ministry foresees that the rate of inflation may end up at 10 per cent by March 1995. Because of the inflationary impact of the swelling foreign exchange reserves, the government has made it mandatory for companies seeking funds abroad through Euro issues to keep them out of the country, unique expenditure for the approved end-use are incurred.

State government in India has converted 4 TIDCO projects into government owned companies. These include TANSEM, TEL, TNSL and TNMN.

- 5 Another new project is a joint sector company floated by Mac India Industries and TIDCO to set up a chemical terminal at Ennore for which \$70 million is being raised from the European market.
- 6 The State government has prepared a major overhauling of the road system and have drawn up a mega investment proposal of Rs.2000 crores which it has presented to the World Bank and ADB. In this project, the East Coast Road has already made progress.
- 7 SPIC reports that it is setting up two companies in Dubai to expand its fertilizer and engineering operations involving Rs.2000 crores investment.

The Existing Projects are :

- a) The Madras Fertilizers after a year of heavy loss reports a profit for the first 6 months for 1994. The last year's set back of the company was due to non-availability of the required quantity of water (as Madras was suffering from water scarcity).
- b) Tamil Nadu's Sponge Limited has overcome its teething problems faced till now since it was started four years ago. It is hoped that this good start this year can be continued for the rest of the years.
- c) Pandian Graphics is planning a project to manufacture 6 lakhs tonnes of cement. The plant located near Tirunelveli is to be run with the help of one of the cement units major KCP.
- d) The Madras Export Processing Zone records a satisfactory growth of 21 per cent in the first six months of this year at Rs.115 crores. This is a good start for the year and should be maintained.

Power

With regard to providing guarantees to investors in the Energy sector, under a new policy approved by its Board, the World Bank is prepared to make guarantees for one of its main term operations. This is good and will benefit the country only if the government ensures transparency in its negotiations. Enron got away with the project cost of Rs.4.22 crores per MW, which means that the power user will have to face high cost power. The Minister's statement that the high cost power is preferable to no power is wrong, as ICICI's cost estimate is Rs.1.75 crores per MW (almost one third of the Enron). The recent appraisal of the domestic power project this year is important in light of the electricity tariff reform which should be based on cost plus prices, the cost being negotiated openly.

A disturbing feature in the power sector is the rising arrears due to the National Thermal Power Corporation from the SEBs. The dues currently amount to Rs.3152 crores (Rs.1731 crores principal and Rs.1420 crores surcharge). The arrears should be regulated soon to enable NTPC to meet the demand from its raw material suppliers.

Another development in October is that an American Power company, J.Makooshir Associates, under the umbrella of the giant Pacific Gas and Electricals reports that it will be setting up a 2500 MW capacity at Rajasthan, Himachal Pradesh and North-eastern States. This will involve a large investment of Rs.10,000 crores, using coal, lignite and hydel resources plus non-conventional sources.

The Ministry for non conventional energy sources has reported a new project to develop a Plant to generate 6000 MW capacity in the next three years through small hydel projects located in some 1000 sites in different States. If it is realised, it would to some extent set right the

absence of equal thermal and hydel power use. In the same way the National Hydel Electrical Power Corporation reports increase of its sales turnover by 33 per cent to Rs.234 crores in 1993-94. But here again the Ministry states that over dues to the Corporation are Rs.250 crores as at March 31 1994. The Corporation should use the power granted to it to regulate the power supply to defaulting states and so collect the dues of the users. Reference has been made earlier to the Orissa Power plant established by NTPC to supply power to Southern States which are prompt in the payment of the bills.

Electricite de France has offered to set up a hydel generating plant in India. It states that the capacity of the country for hydel generation is enormous given on the basis of its experience in the Bhadravathi-Maharashtra region where it is setting up a thermal plant.

Stock Exchange

SEBI reports that from October it will rigidly enforce the existing rules of operation of merchant banks since the latter has now grown adequately to meet it down. A recent SEBI study on the Indian Securities Market has focussed on a few important issues affecting the Indian capital markets. It is timely because the markets on investment record an unprecedented rise. The SEBI study points out that the capital raised in 1980-81 was Rs.200 crores which has shot up to Rs.21000 crores in 1990-91, involving also a change in the mix of securities as well as the position of those who offer the securities. The study also states that the objective of SEBI has been investor's protection and deregulation of interveners, which will now be fully implemented during its second phase of reform. It is not easy, as in the first phase SEBI had to face both primary and secondary markets which were in a remarkable ascendance stage. Along with

quantitative growth on all facets of the capital markets, some of the knowledge gap separating the regulators from the regulated has widened. Therefore it is good that SEBI has put in place a number of improvements over the existing structure of the primary market. SEBI's guideline concerning disclosures requirements and investor protection, the stock invests scheme and making merchant bankers responsible for the contents of the offer documents are major contributions towards greater investor awareness and protection. In the second phase there should be reduction in transaction costs in mobilising capital, ensuring liquidity and maintaining the fairness and integrity of markets.

Economy

In a mid term appraisal of the VIII Plan, it is pointed out that in the next 2 1/2 years we will see the economy move to a higher growth rate, that the impact of the economic reforms will become visible by the terminal year of the plan with GDP growth peaking to 7 per cent, fiscal deficit moving down to 5 per cent of GDP, industrial production rising to 10 per cent and the annual rate of inflation dropping to 6.5 per cent. If this appraisal by the Industries is realised, the GDP growth rate would average 5.4 per cent (recording 5.5 per cent this year, 6.5 per cent in 1995, and 7 per cent in the terminal year of the plan) assuming a normal monsoon, the industrial annual growth rate is expected to rise from 3.8 per cent in 1993-94 to 8 per cent in 1994-95 and to 10 per cent in the subsequent year.

As mentioned in the last issue the agreement on the Southern Depository was signed on October 22 in Madras by the Presidents of Southern Stock Exchange. This eliminates the physical transfer of shares in trade as a custodian will keep the shares and issue acknowledgement of the net possession of the shares to investors. Also a common delivery system is established at this time.

On lending and savings rates reform, minimum lending rates by banks have been freed for advances over Rs.2 lakhs, with RBI deciding to continue to protect borrowers by prescribing rates for advance below 2 lakhs. RBI's deposit policy for the busy season announced in mid October has left term deposit rates untouched because it fell with its degulation of these rates. Simultaneously, to enable banks to participate in funding large projects, ceiling on term loan of Rs.50 crores for each bank is withdrawn and a new limit of Rs.500 crores for the banking system as a whole for any new project has been fixed. Since a large proportion of savings bank accounts are being operated virtually like current account, RBI has brought down the savings rate by half a per centage point to 4.5 per cent. Since GDP growth rate for the period was expected to be 5.5 per cent, slightly large monetary extension (not higher than 16 per cent) is understandable. Other decisions adopted are reductions in term deposit rates for NRI accounts, FCNR schemes to maintain the cash reserve ratio of 7.5 per cent, SLR on domestic net demand and term liabilities reduced from 33.75 per cent to 31.50 per cent, commercial papers delinked from cash credits with the abolishing of its standby nature. This means that banks can now provide lines of credit and term loans to State Industrial Development Corporations and Financial corporations for extending loans to small scale sector units. One result of RBI's deregulating the lending rates has been a rise in government securities prices.

One comment on the RBI's projection in the slack season credit policy announced 6 months ago is that it has failed to keep pace with the economic changes envisaged in the first half of the current fiscal year. Its link with the inflation which was expected to fall by a 4 percentage points above has not been realised. The target set for money supplies funds, has also been surpassed as in previous seasons.

This explains perhaps the realism that characterises the credit policy now announced for the busy season (October to March). One of the major aims of the credit policy is to contribute to the primary objective of bringing down the inflation rate gradually to the pre set stage target level of 4 per cent. For this interest rate management has limitation because the manufacturing and export sectors have to be provided an inextensive credit. All this justifies asking the commercial banks to shift to a prime lending concept and base their interest rates on it. It is hoped that the reduction in SLR will stimulate fuller use of credit facilities, than in the past, as the reduction provides Rs.2500 crores more of loanable funds. Further it is expected that there will be a decline in the interest rates based on the decline in peak interest rates paid on commercial payments by corporates from 16 per cent to 11.5 per cent. The fall in interest rates and treasuries yield has been due to an excess of supply of credit and decline in investment. This is an indicative part of the decline in interest rates which is a signal of the the basic imbalance which brings it about.

India's ability to attract increasingly large doses of foreign direct investment is held up by our operational procedures which means that our liberalised policy is yet to become functional. The efforts of the government to accelerate actual flow of FDI has not really paid off, with the realisation being less than 21 per cent of total approvals. The actual inflow being 22-25 per cent of the total approvals. That is against a total approvals of Rs.15880 crores till July 1994, the actual realisation has been Rs.4171 crores. In the first year of liberalisation, 1991, the total approval were Rs.530 crores and the actual inflow was a welcome Rs.351 crores. In the second year, FDI approvals were Rs.3890 crores, with the actual inflow of Rs.675 crores. In the third year, FDI approvals were Rs.8860 crores and the actual inflow of Rs.1786 crores. In 1994 till July end, approvals were

Rs.2600 crores while the actual inflow was Rs.1359 crores. These fluctuations is a part of the first 7 months of 1994, record a staggering decline of 40 per cent in approvals compared to 1993 with the actual inflow also not been encouraging. What is needed is to remove the red tape which is preventing a higher rate of inflow of foreign resources.

There is a broader issue involved which is that the mobilisation of primary market does not probably lead to investment growth. Where is all the money that the corporate sector is raising from the primary market going? When industrial undertakings are making more money from investment than through production, the mobilisation of Rs.12155 crores of primary capital during the first half of the current financial year is worrisome because it means that financial instruments provide greater profits than production of goods in our free market economy. Capital in real terms is not growing annually as the RBI's annual reports shows. One aspect of the investment is its cost expectation as the real investment rate cannot be arrived at by using the WBI index because investment prices are rising much higher than the wholesale prices. What the reforms must do is to help cut all round costs which counter guarantee investment contradicts.

Using the State per capita data given in the national income statistics, it is found that 6 of the 15 major States are well above the national per capita income average. These include, Punjab, and Haryana in the North, Maharashtra and Gujarat in the West, Tamil Nadu and Karnataka in the South.

The excise and customs collection in the current financial year confirm that higher rate of growth in industrial production of the economy is peaking to pick up. In the first half of 1994-95, excise collections have risen substantially (by around Rs.3000 crores) in iron and steel, chemicals, machinery, tyres, man made fabrics, cotton, neon fabrics, paper and paper board and refrigeration and airconditioning equipment. Similarly, the

customs collections have risen by Rs.1600 crores particularly from machinery, imports, chemicals and non ferrous metals. This is an indication that industrial production has turned round and is increasing, and that the RBI need not resort to sanitizing the dollar inflow.

The Union Finance Minister during this month has stated no restrictions be imposed on imported consumer goods. He stated that the manufacture with value added tax systems could be introduced soon as a part of tax reform and believed that there was a national consensus to have value added tax system to keep pace with the reform programme. While the removal of taxes on imported consumer goods in use can be attained fairly quickly, the VAT system is much more complicated and still under study by the Committee of the Chief Ministers.

The Finance Minister also states that despite the spurt of \$1.2 billion in September, the overall growth in foreign currency reserves this year will be lower than last year. This year the increase will be \$ 5 to 6 billion against 8.6 billion last year. This means that our foreign reserves at the end of this year (March 1995) will be of the order of \$ 20 to 21 billion.

A RBI study calls attention to the fact that in the last two decades two issues have come to the force, concerning the external borrowing namely approximate size and its management which have drawn a great deal of attention. Debt capacity is measured either in absolute or in servicing terms. The RBI warns that there should be early warning systems so that preventive action can be taken in time.

The IMF and the World Bank interim committee call for improving the effectiveness of the aid received by the developing countries. Its Development Committee points out that for aid to be effective it has to be adequate as well as operate in a favourable environment. It calls for good governance in the utilisation of aid.

The Government went in October for the first round of disinvestment of public sector undertakings for the current financial year. The equity of 7 public sector units including ONGC, Indian Oil and SAIL have been approved for sealed tenders for purchase of their shares. This is part of the Rs.4000 crores that the Finance Minister announced in the budget that would be raised from disinvestment.

The World Bank has decided to consider proposals from state governments for structural adjustment loans worth \$500 million each. This is a new development whereby the Bank is once more taking the lead in setting the reform agenda. This would be a departure from the usual practice of making loans only to central governments. To what extent this would lead to its interfering with priorities of the state being given the loan needs to be watched.

The macro numbers highlighted in the monthly (October 1994) report of the Finance Ministry substantiates the perception that real GNP growth would be around 5.5 per cent if industrial production accelerates during the second half of the year and agriculture grows at more than 2.5 per cent. Industrial production during June 1994 recorded a rise of 8.6 per cent with manufacturing, growing at 9.9 per cent, for the period April-June 1994, growing at 8.8 per cent. Similarly, the performance of the infrastructure industry during April-August 1994 combines improved growth in some sector like saleable steel, cement and crude petroleum while some other record stagnation.

In continuation with the modification announced in the Drug policy, reported in the last issue, the government at the end of October formally abolished, licensing controls on the manufacture of all bulk drugs, their intermediates and formulations. The government has also ensured automatic approval upto 51 per cent for foreign investment in Drug industry, subject to param-

eters, laid down by RBI. Foreign technologies collaboration and transfers have also been liberalised.

Agriculture

South Western monsoon spread satisfactorily over major parts in the country. Being the seventh consecutive good monsoon since 1988, the monsoon covered 27 out of 35 meteorological sub-divisions and 77 per cent of it received normal or excess rains. In area terms excess to normal rains was received in 89 per cent of the area of the country.

A record kharif food grain production is expected this year at 101.78 million tonnes against the target of 106.33 million tonnes and last year's 99.57 million tonnes. Despite the government statement that the downtrend in the offtake of food grains from the public distribution system continuing it will be procuring 135 lakh tonnes of food grain in the current kharif season. From January to July the offtake of rice from the PDS is nearly 39 per cent of the total allocation and that for wheat 47 per cent. The normal offtake is around 80 per cent. This means that the costs of foodgrain stocks will be rising.

Of the several ways of meeting this problem of mounting foodgrain stocks, one is to employ them for investment through such programmes as the employment guarantee scheme, the Rozgar Yojana which would not only lead to assets being built up but also relieve poverty. Another possibility could be to export both rice and wheat when the current obstacles are relieved when the GATT agreement is put into effect by the countries, particularly if they are developed countries. These uses of the foodgrain stock are urgent and should be explored carefully because annual average costs of holding stocks is Rs.1400 per tonne.

The country is likely to witness a shortfall in phosphatic fertilisers, DAP, in the coming rabi season due to sharp increase in its

prices. Even if there is no growth in last year's level of 20 lakh tonnes, the shortage for this year's rabi season is estimated at 7 lakh tonnes. This would result in a sharp rise in its price as its increased import prices would add Rs.750 to the domestic cost of production. What this means is the need not only for pressuring the government to import little more but also for the farmers using it to observe the strictest economy. The government has directed the public sector National Fertilizers and Pyrite phosphates and Chemicals to import 4 lakh tonnes of urea to cover the above shortfall during rabi.

FAO reports that about 66 per cent of India's cultivable lands is suffering from degradation mainly due to the poor use of water. It points out that out of the country's total area of 328.73 million hectares only 266 million hectares possess the potential for biotic production. Of this 175 million hectares suffer from degradation of one kind or the other. 90 million hectares have reached the limits of degradation and are classified as waste lands. Salinity affected areas alone as a percentage of total irrigated land is placed at 11 per cent. This is worrisome because when our population touches one billion, foodgrain production will have to increase from the present 182 million tonnes to 210 million tonnes. This means that the water use should be examined in every area and run out decreased in it. Reference to Central Water Commission's estimate shows that the annual average running out of the river system of the country being 189-0 km³. Of this the present utilisable water resources are estimated at 690 cu.km. Our surplus water resource has 450 cu.km. as ground water resources which gives the utilisation of 60 per cent. The first area where water use efficiency can be improved is the existing irrigation projects and channels where only 40 per cent of efficiency is obtained. Improved management could increase 6 to 60 per cent and allow an additional 8 million hectares from the existing irrigation facilities to come into use. In regard to agricultural research in

October, 23 reports were received. The break up between the various reports is, 6 for cereals, 10 for vegetables one for fruits 2 for oilseeds and four for animal husbandry.

Plantation Crops

Tea: Among plantation crops non conventional tea growing areas of the North East are being explored to boost tea production. Tea cultivation has already been started in the hilly States of Meghalaya, Nagaland and Arunachal Pradesh. Small tea gardens are also growing in Upper Assam. Tea cultivation has also been taken up by the administration of the agricultural department and local units of Arunachal Pradesh. **Coffee:** The Plantation Association of Tamil Nadu has urged the Coffee Board not to curb coffee exports or reimpose export duty as that would affect the long term interests of both the growers and the country. India is now given a good opportunity to capture the export market after a slackness in 7 years. Coffee Board announced in October that the 50 per cent free sale quota (FSQ) will continue for the 1994-95 coffee crop until final decision is taken by the government. This will avoid a hiatus or lessen any problem in coffee growth as between growers and traders. Exporters and pool agents have been asked to report in implementing the free sale quota programme. **Rubber:** On Rubber, rubber prices have recently tended to fall in the peak season and the prices are expected to remain low till the end of February 1995. The local rubber prices however has not eased and the rubber users are of the view that the government is biased in favour of the growers and so is pushing the sale price higher. Hence the All India Users Association has involved the auto engine tyre manufacturers association to form corporate bodies to procure and distribute natural rubber. The proposed corporation would also operate a buffer stock scheme with the mobility of both growers and users. This is good because the government has given up the project for a buffer stock in rubber.

Tamil Nadu government has constituted a separate board for palm products development with members nominated from 9 major districts where palm trees are grown. The Tamil Nadu Palm product development board is based on legislation enacted this year and will embark on measures for increasing the output of palm products based on modern methods, creating proper conditions for marketing them and imparting training to the workers and encouraging research on scientific consultancy and production. **Spices:** Spices in the country are being assisted by UNDP to improve the quality and promote export value added spices on a sustainable basis. The project which is being assisted aims at providing support to the government programme. It will strengthen the capabilities of the spices board and export spices with proper quality standards. The Board's quality evaluation library is set up at Cochin.

Industry

CSO's quick estimates shows that industrial performance records an upward trend for June, the index being higher by 8.6 per cent compared to June 1993. Overall index for the first quarter, April to June, records 6.87 per cent. Basic goods increased by 5.2 per cent, capital goods by 17.9, intermediate goods by 6.0 per cent, consumer goods by 8.0 per cent, consumer durables by 10.3 per cent and consumer non durables by 7.4 per cent. This is a satisfactory record and it means that there is a turn around in industry. The actual inflow of foreign investment, as noted earlier in the first 8 months of the current year is reported by the government at Rs.1070 crores against an approval of Rs.6770 crores. The actual inflow was nearly equal to that of the entire inflow in 1993. An analysis undertaken by the Ministry of Industries shows that 17 states received only 10 per cent of the total foreign investment proposals. This uneven distribution of FDI approvals is further illustrated by the fact that six states have cornered about 70 per cent

of the investment including the four states of Maharashtra, Delhi, Tamil Nadu and Gujarat which during the period January 1 1991 to July 31 1994 have managed to attract Rs.537.50 crores of investment. This pattern shows that backwardness continues to be one of the prohibitive factors for investors' indifference. The four states mentioned are known to boost better industrial and infrastructural facilities. The majority of Indian States thus are not still alluring to the foreign investors.

There is need for proper rescue management policy atleast by the major corporate sector companies. A case study reveals that in the matter of mineral water global giant Perrier's product liability was involved and the management was not equipped to handle product recall in time. The reliance factory was lashed by sudden floods and incurred heavy loss because it did not have an insurance coverage. The UK based commercial unit which experienced a major bomb explosion was back in business after a week end and operated its contingency plant which despite its financial loss enabled it to come on business within two days. All these indicate that rescue management is yet to be understood by our corporate sector in order. Rescue management is not investing in future of our industrialisation and is a systematic way of protecting business resources and income against losses. In this context, MNCs bring their management to use review companies which is one of the plus points for that.

CSO reports that its survey shows that the total assets locked up with sick or weak industrial units as on March 1994 is Rs.50,000 crores. Of this, bank loans comprise Rs.15000 crores. The survey shows 3 lakh weak industrial units in the country as on March 1994 of which 99 per cent were in the small scale sector. The increase in the number of sick small scale industrial units was 2 per cent between December 1988 and March 1992. The total bank loans locked up in sick and weak units at the end of March 1992 was

17.6 per cent of the total outstanding of bank credit industries. Of 1000 public enterprises, 700 are owned by States and the rest by the Centre. Western region has the highest incidence of industrial sickness in non small scale industrial sector followed by the southern east and northern region. The incidence of sickness in non SSI sector in terms of credit to outstanding was highest in textiles, (23 per cent) followed by engineering (18 per cent) chemicals (8 per cent), electrical and paper (5 per cent). In sick small scale industrial units, the highest incidence is in engineering sector (20 per cent) followed by chemicals (10.27 per cent), textiles (6.7 per cent) electricals (5.8 per cent), iron and steel (5.01 per cent) and rubber (3.62 per cent).

The arresting of the downtrend in production of capital goods has now been confirmed by CSO data, according to which the output of the capital goods recorded a 18.3 per cent increase in April - June 1994, against the 11 per cent increase during some months of the previous year. The upturn in production of capital goods enabled the increase in the output of consumer durables which went up by 12.6 per cent, pushed up the general increase of industrial production by nearly 7.8 per cent for April - June 1994. SAIL reports a 15 per cent increase in sales and 5 per cent growth in output during the first half of the current year, 1994-95. The Salem Steel Plant has achieved record production of 28, 106 tonnes during the first half of the year.

October on the other hand records severe shortage of copper wires and semis mainly because the government has failed to reduce import duty on copper as it has done for aluminium. Copper prices have risen by \$6.65 per tonne early this year and are expected to cross \$2600 per tonne early next year. This must be reflected in the import duty of copper.

The Department of Industrial Development reports that since July 1991, over 17000 letters of intent have been issued to

both Indian and foreign investors involving \$100 billions. Of this, about 40 per cent of the investment has been realised, involving Rs.100,000 crores and direct employment generation of 11 to 12 lakhs. It adds that with the investment of Rs.3 lakhs crores the total Development generation will be 32 lakhs.

The latest figures for project imports show that they are gathering momentum increasing by 23 per cent in the first quarter of this year as compared to April-July of last year, going up by \$458 million. This has also resulted in a 3 per cent increase in customs revenue but the concessional duty for capital goods discriminates heavily against indigenously produced capital goods. This kind of trade off is to be regretted. The demand of the industrial profession for levy of countervailing duty on project imports should be approved as otherwise the domestic capital goods industry will decline rapidly.

The inter-ministerial committee on sugar forecasts sugar production for 1994-95 at 118 lakh tonnes which is 20 lakhs tonnes more than that of the previous year. The Food Ministry has not accepted the estimate of 122 lakh tonnes made by the state Food Secretaries in early September. This needs to be looked into to straighten it out in order to avoid repetition of last year's sugar scam.

The government has formally launched the country's first experiment to ensure Integrated Rural Industrialisation in an organised manner. The District Rural Industries Project (DRIP) which was formally launched at Barai has its participation of money bodies like the government owned rural development agencies, banks, and non governmental organisations. This is an execution of the 1993 budget announcement to introduce DRIP in selected villages.

Foreign Trade

The April to August 1994 trade balance shows a deficit of \$798.53 million. Export growth was sluggish with the 10 per cent growth

during this period as against 24.30 for that period during 1993. Imports reached 16.4 percent so that trade balance for the period was \$2505 million against this trade balance of \$798.40 for that period during last year. The minuses in balance of trade is in importance attributed to the Plague but its effect on exports was made after the April-August period reviewed above. At the end of October, it was estimated that Rs.4000 crores worth of exports were lost because of the ban on Indian exports from many countries. In the context it should be noted that the Commerce Ministry estimates that the plague would cost the economy during the year at least \$1 billion which is somewhat shattering. This means that the export growth rate target of 25 per cent will not be attained this year. The withdrawal of customs duty by the department of Revenue allows duty free imports for all bulk drugs and medicaments though it is restricted only to drugs used for the treatment of plague. But the duty exemption has presented traders with opportunities for profits through bringing in new generation antibiotics. The customs notification on plague thus perhaps is the first example of blanket permission to import without duty. The drop in exports is a first casualty in a nation wide disaster as plague has in this case. It may be noted that the growth of trade exports for the first five months has improved compared to the first two months. It touched double figure in April and was 20 per cent export growth in August. Equally, the pick up in imports which has led to the increase in the trade deficits along with the decline in oil imports means that the industrial production is on a turn around course. As the economy opens up and companies compete with each other they will increasingly import new machine technology to upgrade their production. This caused the inflow of foreign capital which will be stimulated by the trade deficit and which should be translated into fresh investments instead of simply adding to our reserves. It is expected that the trade deficit in the current year would be about \$2 billion which VIII Plan forecasts at around \$4 billion

a year. This would facilitate more inflow of foreign savings to add to the domestic 24 per cent savings and investment. The government has decided to reduce the value addition norms in case of export friendly settlers like software, textiles and gems and jewellery to counter the set back in exports in the few months. This along with the RBI promotion to Indian exporters for remittance to funds to complete semi-finished products in the third countries before delivering it to the urban consumers is an aim to further push up exports. The only limitation here is that the promotion would be granted on a case by case basis which may cause unnecessary delays. Simultaneously, the Apparel Export Promotion Council states that it has barred over 300 small exporters from using and endorsing manufacturers export entitlements certificates. This shows the exporters failures to adhere to the government norms stipulating the type of machines to be used and the number of people to be employed for qualifying for the manufacturers export entitlement quota. Of the 300 defaulting exporters who come under this rule, over 50 per cent are from Madras, Tiruppur and Coimbatore.

Loans and Aid

The World Bank announced a loan to Tamil Nadu for the development of its forests. It is also planning to aid a 1000 crores project to combat industrial pollution. The industrial fund for developing countries of Denmark which has the corpus of a DKK 1.2 million (Rs.600 crores) announces that it will make a large investment in India mainly in telecommunications, software, and food processing and packaging. Japan announces a grant of 937 million yen (Rs.30 crores) for debt relief and increasing food production.

Human Resource Development

Starting with education, the establishment in Taramani of an entrepreneurial development institute by Anna University will help the job

seekers to become job creators. The first generation entrepreneurs would draw on the institute for assistance at all stages from conception stage of the product to its final stage. Tamil Nadu government is forwarding this project to the centre for approval.

The University Grants Commission has declared the Sri Ramachandra Medical college a research Institute of Madras as a deemed university. The Institute will not charge capitation fees from the students, the tuition fees for professional courses has being set on the recommendation of an expert committee appointed by the UGC. Existing students who continue various courses in this Institute will not be affected by the decision. Seven self financing engineering colleges in Tamil Nadu are looking forward to being approved. They have been recognised by the All India Council for Technical Education and are awaiting government recognition and/or university affiliation. Three are in the Coimbatore district, 2 in Trichy and one each in Madras and South Arcot. As a forum of Education for All summit at New Delhi in September 1993, reported in the bulletin earlier, the Asian Development Bank has decided to provide credit to the 9 high population countries for distance education. These countries met again in October of this year and noted the tangible progress made to development, jointly distance education as a tool for the Education for all. ADB will be supporting this initiative in 5 Asian countries - Bangladesh, China, India, Indonesia and Pakistan.

The universities report a very serious crunch, leading to the resignation of one Vice-Chancellor and to the Punniyaya Committee recommendations on how Universities can increase their resources. This is also an occasion when UGC's plan to levy higher fees for overseas students and increase their number should be favourably acted upon.

Arivoli Iyakkam

The Adult Literacy Programme sponsored jointly by Centre and state governments and executed by an autonomous body under the chairmanship of the district collector is being extended to 4 more districts in the state - VOC Chengal MGR, The Nilgiris and Madras - by December this year. With this, all the 23 districts will be covered under the programme which started in the state in 1991 and benefitting over 75 lakh persons.

Science

Parents realised the difficulties of popularising science and want their children sensitized to the scientific outlook particularly astronomy and space science which will give them a feeling of the cosmos. Special programmes of cosmic trips for children however did not get required special funding and so the corporate sector has accepted this programme not only to help in widening the children's horizon but also promote the company's brand. This is seen in the October programme of the Excel Finance Ltd., of the MAC group of companies which has sponsored a special planetarium programme at the B.M.Birla Planetarium on Man and Moon. Another important scientific initiative is the establishment of the Institute for aquaculture with the \$ 40 million World Bank loan. The Institute is being set up at Sattangudi in the Quilai e Millet district and will focus on areas such as technological demonstration, model farms, technology training, extension and technology diffusion. It is hoped that the participants will be trained in meeting and countering the limitations of aquaculture farms. Another special initiative is that of the Indian Council of Agricultural Research which has sanctioned 4 centres for advanced study to be established by the Tamil Nadu Agricultural University. The new centres are agronomy, genetics and prawn breeding and microbiology. There will also be a special programme to counter the growing water

scarcity in the State where the industrial use of water has resulted in over exploitation, declining water table and drying of wells. The school of Energy, Bharathidasan University reports the development of a high efficiency smokeless firewood operating stove for domestic and industrial use. As it gains use in popularity, it can reduce firewood consumption by about 40 per cent and so save the fast dwindling forest area. Finally, a Science and Technology Park cum hobby centre which will develop creativity in students was established in September at Anna University. With this 24 hour park and centre will serve as link between theory and practice for the engineering graduates encouraging them to familiarize themselves with various aspects of science and technology. Students of Electrical, Electronics, mechanical and civil engineering department will through this unit have access to tool and equipment for designing, fabricating and testing various projects.

The Tamil-Nadu government has conveyed its approval for the implementation of Rs.94.56 crores agricultural science projects which are to be financed by the World Bank. This last project will reorient agricultural education and training with emphasis on "hands on experience" so that the trained youth would be "job creators" instead of the usual educated "job-seekers".

The All India Council of Technical Education reports that it has set up a National Board of accreditation for Technical Education Institutions. Accreditation is a process of quality assurance, whereby an approved institution is critically appraised at intervals not exceeding 6 years as to whether this institution has met the council's laws and standards. This is a good move to improve the quality of Technical Science education, particularly if it is done jointly with registered councils which have the local know-how for this innovative exercise.

Health

The Tamil Nadu government is embarking on an important foolproof drugs purchase and distribution scheme. This will eliminate pilferages and ensure strict observance of quality norms through an international reputed agency and remove any misuse of the crores of rupees used on drugs purchase. An even more important public health project in the State is envisaged which will totally do away with the bulk purchases of standard drugs like Paracetamol or Gelusil, which come packed loose in containers and are open to contamination each time the tablets are handled. This will be replaced by tablets packed neatly in strips which the manufacturer will produce for the Tamil Nadu government only.

Employment

The Prime Minister has approved extension of this employment assurance scheme to 501 new blocks in the country. The scheme is assuring manual employment for 100 days during the lean season. This increases the coverage of the scheme from 1778 to 2700 blocs. The extension of this scheme however falls under the usual vote gathering pattern because the extension to some 500 additional blocks covering 40 per cent of the total blocks of the country has been done without providing the necessary budgetary resources which means that the same resources have now to be spread thriftily over a larger area, reducing the chances of using these funds efficiently. Similarly, the rural infrastructural development aspect of the project - minor irrigation works, roads, schools etc. will also suffer because the funds are being spread thriftily over larger areas. Further, the additional jobs created through construction will not develop into permanent new jobs. The moral is that the scheme should not have been extended without additional funds. Alternatively, the JRY in prosperous blocks (where the wage is above the minimum wage) could be replaced but

concentrating the usage of released funds whether any block's wage is low is important. In this context, the World Bank in a study on Indian economy calls attention to the fact that protective labour legislation and high wages in the public sector has discouraged the use of labour intensive methods. It has expressed doubts about the usefulness of the government policy to reserve products for the small scale sector. This bank's study shows its bias against the policy of the reservation for small scale sector as well as the protective labour legislation. It refers to its usual critique of the labour and trade policy being set up against agriculture which is labour intensive and instead promotes capital intensive methods substituting labour in the public sector and draws the usual conclusion that "greater reliance on the price mechanism will result in more labour demanding development and reduction of poverty". It makes some concessions to "well targeted schemes of public employment and other forms of poverty relief as being both desirable and in no way incompatible with a much more open economy and the greatly increased reliance on the price mechanism that we are advocating." This study conducted by Vijay Joshi (Merton college) and I.M.D. Little (Nuffield College) is in line with their review of the macro economy of developing countries for over 2 1/2 decades. The Indian study is titled "India Macro Economics and Political Economy 1964-1991."

International

Bretton Woods Twins

Continuing the reviews of the two Bretton Woods Institutions, the World Bank and IMF, on their 50th anniversary from the last three bulletins, the World Bank was supposed to stand between global capital markets and developing countries and recycle market funds to them. Today,

however, out of the global surplus of nearly \$200 billion a year, the bank recycles minus 1 to 2 billion dollars net to developing countries. Private markets recycle most of the rest. Further the Bank could have offered IMF competition, instead of which it has chosen intellectual subservience to it. National budgets are being balanced by balancing people's lives through demand reduction rather than supply expansion, through cuts in social spending rather than military spending and in food subsidies to the poor rather than tax subsidies to the rich. Hence the two institutions are not ensuring global order and governance but mainly policing the developing countries. We are back to ad hoc improvisations by the richest nations either unilaterally or through the G-7. This was not what was encouraged at Bretton Woods which against the 1930s great depression and unemployment set forth, the new objective of full employment. Trade and investment rules had broken down and so to prevent their replacement by a beggar thy neighbour policy were adopted in this situation, the question is whether we need the Bretton Wood institutions to influence the developing countries' policies or to govern on a global scale. Should we have faith in the global economic system or in G-7 and their international markets?

IMF and SDRs Creation

The US administration seems to be hankering back to Reagan economics with lower taxes, deregulation of free trade and less government intervention. This has led it to employ punitive trade sanctions against Japan and threaten the same against India, Brazil etc. In the US view, far from representing an extreme form of full protectionism, the 301 or Title VII sections of the US Trade Laws seek to open foreign markets by directly dealing with the barriers. It is not surprising therefore that under the IMF conditionalities, SDR creation proposal has turned into a sound money versus easy money debate. IMF's proposal to inject more liquidity

into the system by making a fresh issue of 36 billion SDRs is considered an urgent measure. The Managing Director of IMF however at the end of the Bank/Fund development committee meeting expressed his confidence that this issue will, despite the opposition from the US and its well to do allies, be resolved. The basis for this confidence is however not clear. He also ruled out its softening of the conditionalities laid down by IMF while providing assistance to the developing countries. He stated that apart from using its conditionalities, the Fund must strengthen the programmes to which it gives financial support through stringent support of the fund condition. Proposals for two new facilities that have been made, were not being considered by the executive board of the IMF. One is for establishment of special trust accounts "for pro-financing accounts". The other is a facility to protect developing countries from the potential volatility of the capital markets. He states that the fund board will now begin exploring possibility of such a short term facility. The President of the World Bank joins the Managing Director of the IMF in expressing fears about the danger of volatility of private capital flows to the developing countries. The \$130 billion of private capital now flowing every year to developing countries need to be translated into the investment in productive assets instead of growing into, as it does today, stock and bond markets. India supports the Managing Director's proposal for a 36 billion SDR issue to help the needy developing countries over the next 5 years and also to form a new political mandate for the IMF.

World Bank - Fund Concerns

The two institutions as a result of the two weeks meeting marking the 50th anniversary have promised to help the poor countries, to welcome industrial nations pulling out of the prolonged recession and the lowering of their inflation rate and also welcomed the Latin American countries recovering from their

foreign debt crisis. The World Bank however points out that many small countries which have relatively small debts is a matter for worry as it could spark a foreign debt crisis similar to the 1980s. The Bank promises to help these countries which are the severely indebted low income countries and which owe nearly \$ 180 million in 1992. UK has proposed that rich countries should reduce these debts by 2 dollars for every 3 dollars, but US, Japan and Germany expressed their opposition to the proposal.

Early reference has been made to the undesirability of World Bank guaranteeing jointly with the government a rate of return to foreign investment in the power field. As noted earlier as a result, one of the major power suppliers Enron has got away with the project cost of Rs.4.22 crores per MW which will be paid by the power user in India. What is needed is electricity tariff reform and not inflated cost plus pricing. IMF has in October announced an increase in the annual access limit under outright drawings and standby, of the extended fund facility from 68 per cent to 100 per cent of a member quota. This increase will be made for 3 years. This utilisation should be carefully monitored because of the heavy service burden it entails for the borrowing countries. The Managing Director of IMF at the end of the annual meeting went against the position of the poor countries in criticising minimum wages, generous jobless benefits, and restriction on lay offs of the workers. This seems to go against the World Bank president's concluding statement that the Bretton Woods institutions are more committed than ever before to help the poor. The poor nations of the world however took on the rich ones, by digging their heels over the latter's proposal of the issue of a limited amount of new money (SDRs). They preferred to take nothing rather than accept a reduced flow of resources. These contradictory positions reflect the real situation on poverty and the action of the two Bretton Wood agencies on it.

World Bank on US Poverty

The US Census Bureau's annual report says that the total of 39.3 million (15.1 per cent) of the population live below the poverty line which is set at 14763 for a family of 4. While unemployment declined during the year, wages fell relative to inflation so that there was an increase in the number of people seeking food supply in 1993, compared to 14.8 per cent in 1992.

ADB on Asian Economy

ADB projects that Asia's economy would grow by 7.8 per cent in 1990 continuing in 1993 expansion. It attributes for this reason strong economy to high rates of saving, and investment, open trade and industrial policies, strong inflation control and stringent moves to reduce public deficits. It was developing Asia as the most dynamic region in the world economy, with the per capita income growing at more than twice the per capita income rate of any other region near the past 4 years.

Other items

IIC Panel

The meeting of the monthly panel discussion of the Economic Affairs Group of the IIC in October dealt with the question of Centre-States Financial Relations and the Status of State Level Plans and the Planning Aspects of the Panchayat Raj. There was general agreement that the Centre-State Financial Relations are in a bad way, placing the States in general in a difficult financial position. Equally, the States in their relation with Panchayat Raj bodies, while approving their plans, are chary of making available to them adequate financial resources.

National Council for Industrial Harmony

There were 3 events connected with the National Centre in October. First, there was a meeting of the Executive committee which prepared for the annual general body meeting which immediately followed. The main item of this committee meeting was the election of the Vice President to replace the former Vice President who has become the President of the Centre. The second event was the Annual General Body Meeting which approved the audited statement of accounts for 1993-94 and reviewed the programme of the Centre for the year. It commended the growing training programmes being successfully organised and executed by the Centre. The third event was the seminar on the State of Industrial Relations in the Changed environment. The past president of the Centre who has now become the Governor of Goa, Mr. Ramanujam addressed the Centre on this question. Mr. M.V. Arunachalam presided, and made the point that the labour needs to become more disciplined in order to ensure that the new economic policy results in growth. Mr. Ramanujam, however, pointed to the complexity of the industrial relations situation and proposed that all issues should be settled directly by the labour and the management bilaterally, without intervention of the government. In the afternoon there were panel discussions on various aspects of management labour relations, which would be followed up in the next year's training programme.

Tamil Chamber of Commerce's Golden Jubilee

The Tamil Chamber of Commerce celebrated its golden jubilee in October at which the Minister of Finance and the Chairman of MIDS spoke. It was suggested that the Chamber should expand its title to include Industry and should concentrate on developing state programmes to deal with the counterpart of the national reforms programmes under way. It was also pointed out that the

government looks forward to discussing with the chamber its fiscal proposals before presenting them to the legislative assembly. For this, the Chamber must present its proposal to the Government well in advance, because after December of every year the budget proposals are finalised.

125th Birth Anniversary Celebration - Srinivasa Sasthri

At the Hindu Higher Secondary School, where Srinivasa Sasthri was a teacher and Headmaster for 7 years, a celebration was held on the 125th birth anniversary of Srinivasa Sasthri. His humble beginnings were referred to, which enabled him to understand the problem of poverty which the mass of our people suffer from. He was also a true educator in that he got his learning not only from schools, colleges and university and library, but also through self-taught methods. His fluency in English for instance was the result of his learning the language, not from the teacher but from a dictionary. He had the highest honour showered on him both internationally and nationally, he met Gandhiji and became close friends with him. It was with great regret that he resigned from the Indian National Congress because he disagreed with the programme of boycott and non-cooperation which he felt would boomerang on Independent India. His example was commended by all the speakers at the meeting, making the point that we should follow his footprints.

World Tamil Conference

The preparatory Committee for the World Tamil Conference to be held at Thanjavur from January 1-5 met at Madras at the end of October. It was chaired by the Chief Minister, who explained clearly the major objectives of the Conference which was to develop Tamil to meet the challenges of the future, particularly in

science and technology. This was followed by a report by the Minister of Revenue, who gave a account of the work of some 12 committees which had been set up to prepare various aspects, academic and non academic of the conference. There was a general discussion, in which some 10 members participating in the committee, gave various suggestions for adding to the agenda and importance of the conference. The conference and its preparation is in good shape and should result in a good conference.

First Article

The paper for the November seminar on "Safety and Health of People at Work in the Manufacturing Industries" appears as first article.

Second Article

A paper on "Philosophy of Education - Some Thoughts" appears as second article.

Special Section

A special section in this issue comprises selected articles from the 24th Interdisciplinary Research Methodology workshop on Gender and Human Resources Development held from June 7 to 10, 1994 at The Southern Regional Centre of ICSSR at Hyderabad.

- 1 Dalit Women : The conflict and Dilemma - Annie Namala, Dalit Action Research Centre, Chittoor.
- 2 Gender and Social Reform : Discourses of Nationalist and Dravidian Movement in Colonial Tamil Nadu. An outline - S.Anandhi, Indian Social Institute, New Delhi.
- 3 Labour Force Participation of Women in Rural India - D.Jayaraj, MIDS.
- 4 Methodological Issues in the Study of Gender and Caste - Kalpana Kannabiran, ASMITA, Hyderabad.
- 5 Women and Science - Rachel George - M S University Baroda.

MIDS News

Dr. Manabi Majumdar attended a Workshop on Elementary Education and presented a paper on "Elementary Education in Tamil Nadu and Rajasthan" at NIPFP, New Delhi, November 7-9, 1994.

Prof. K. Nagaraj attended the UGC Workshop for College Teachers and gave two lectures on "Urbanisation" at ISEC, Bangalore, November 18, 1994.

Prof. Nirmal Sengupta attended a Workshop on "New Knowledge for Rainfed Agriculture and served as Chairman of a Union, November 10-14, 1994 at Baroda. He also attended a meeting of the 18th Indian Social Science Congress and presented a paper on "Environmental Unions", November 12-14, 1994 at Baroda.

Prof. Paul P Appasamy attended the VIII International Water Congress, IWRA (Special Session) Workshop and presented a paper on "Sharing Common Water Resources in the Bhavani Basin, Tamil Nadu" at Cairo, Egypt, November 21-25, 1994. He also presented a paper on "Urban Environment in India: Research Priorities"

at a seminar on "Indian Science and Technology in the Next Decade: Needs, Imperatives and Policy" organised by INSA/M.S.Swaminathan Foundation at M S Swaminathan Research Foundation, December 3, 1994.

Prof. P. Radhakrishnan gave a lecture on "Social Policy and Reservations" to the Participants of a Refresher Course in Sociology, at the Department of Sociology, Madras University, November 30, 1994.

Prof. A. Vaidyanathan conducted Workshop of researchers from 10 States at NIPFP, New Delhi, November 7-9, 1994; presented a paper on Second India Studies Revisited: Food, Agriculture and Water organised by Tata Energy Resources Institute, New Delhi, November 10, 1994; attended a workshop on Pre-Budget meeting with the Finance Minister and economists at New Delhi on November 22, 1994; also presented a paper on Agrarian Relations in the Context of New Technology - An Issue Paper organised by Indian Society of Agricultural Economics at Shivaji University, Kolapur, November 26-28, 1994.

November Seminar

Safety and Health of People at Work In Manufacturing Industries

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1.0 Introduction

PEOPLE at work, particularly in manufacturing industries, form a major contributing factor for productivity and wealth of the Nation. Their productivity depends on their well being, both physically and mentally. The rapid industrialisation in India has ushered in prosperity and better employment opportunity. Along with this prosperity, many workers were exposed to occupational injuries and diseases. Considering the need to protect the lives and limbs of the workers, the makers of our Constitution have thoughtfully included various articles compelling both Central and State Governments to ensure, prohibition of employment of Children, health and strength of workers are not abused and that citizens are not forced by economic necessity to enter avocations unsuited for their age or strength, and to make necessary provisions for securing just and humane conditions of work. These aspects are covered under articles 24, 39, and 42 of the Constitution.

1.1 Safety and health aspects occupy a significant and important position in the policy framework of our Country's administrative set up. Major thrust areas are, prohibition of employment of children in any hazardous industries, safe-guarding the health and strength of all workers and providing humane conditions of work. To imbibe the above policies in the planned development and growth, the above aspects are taken care in various Five year Plans of the country. The 6th Five Year

Plan stressed the fact that safety includes not only protection of workers against accidents at work but also against occupational diseases. The 7th Five Year Plan document continued the emphasis on the importance of the Industrial safety consistent with technological changes and production process. It stressed the need for the promotional services, survey, research and training and also to improve the technical capabilities of the regulatory agencies. The 8th Five Year Plan envisages, the establishment of system of chemical safety and the system for monitoring and improving occupational health status of workers employed in hazardous industries. It has also included the upgradation of the facilities in both the regulatory agencies and also the National Institutes devoted for Safety and Health.

2.0 Occupational Injuries and Diseases

The efforts through various Five Year Plans had yielded some results in reducing the number of accidents. The statistics on the Occupational Safety and Health are published by Ministry of Labour, Government of India. A summary of accidents during the period 1987-1989 are given in Table 1. It could be seen from the statistics that the employment has increased marginally and the Industrial injuries have come-down. Eventhough this is a desirable feature, the marginal decrease in the accident rate indicate the deficiency in the system and scope for improvement in our efforts in this area. Details of the accidents, Industry wise are

TABLE 1 : Employment and Industrial Injuries in Factories

Year	No. of Working Factories	Estimated Average Daily Employment ('000)	Injuries		Rate of Injuries per 1000 Workers Employed in Factories
			Fatal	Non-fatal	
1987	183586	7897	487	151321	49.31
1988	NA	7993	694	199564	41.68
1989	NA	NA	423	99787	36.42

Source : Hand Book of Labour Statistics 1993, Labour Bureau, Simla.

given in Table 2. All textiles accounted for maximum number of injuries per 1000 workers employed. Next to the Textile Industry manufacturing of transport equipment and parts have accounted for a more number of accidents followed by the group "Basic Metal Industries" during 1988. It may be also observed that the accidents in the Chemical

and Chemical products Industries are not alarmingly high. But the Bhopal tragedy has proved the high potential risk associated with the Chemical Industry, which is not indicated by the statistics on the occurrence and reporting of accidents to the authorities. An international comparison of accident rates is given in Table 3.

TABLE 2 : Industrial Injuries by Major Industries

Sl.No	Industry	1988		1989	
		Injuries	Rate/ 1000 workers	Injuries	Rate/ 1000 workers
1	All Textiles	109835	62.6	69701	40.7
2	Basic Metal Industries	4054	12.6	1793	5.5
3	Chemicals and Chemical Products	8402	15.0	2983	5.7
4	Non Metallic Mineral Products	8457	15.3	2988	5.2
5	Basic Metal and Alloys	14846	23.5	4891	7.6
6	Manufacture of Metal Products	6646	22.8	1454	4.7
7	Machinery and Machine Tools	15177	16.9	4197	4.6
8	Manufacture of Transport Equipment	11879	25.2	3118	6.7

Source : Hand Book of Labour Statistics 1992

TABLE 3 : Accident Rate in Selected Countries during 1986

Country	Per 1 million manhours worked
UK	0.02
USA	0.02
Germany	0.07
Japan	0.01
Philippines	0.03
Tunisia	0.04
India	0.14

2.1 The published figures of injuries in Factories by their cause indicate that the majority of the accidents occur in the area of Mechanical power followed by the persons falling and also due to falling objects. This may be due to the poor house keeping and lack of awareness in the use of machines.

2.2 The incidents of Occupational diseases have not been reported from the manufacturing sector. But the studies conducted by the Central and Regional Labour Institutes have revealed the existence of the Occupational diseases like pneumoconiosis, mercury poisoning and other diseases which can be related to occupation. The absence of statistical figures on the Occupational diseases does not mean the absence of such diseases amongst the workers. This may be due to the lack of knowledge on the part of the workers, who do not give all the facts to the Doctors or may be lack of knowledge on the part of the physician themselves in correctly diagnosing the disease.

3.0 Legislative Measures

In order to ensure the objectives of the Constitution, relating to working conditions, several legislations have been made. They can be categorised into three measures:

- 1) Legislation dealing with working conditions which covers safety, health and welfare aspects of people at work.
- 2) Legislation dealing with hazardous substances and
- 3) Legislation dealing with hazardous activities.

3.1 Legislations dealing with the conditions of work are:

Factories Act, 1948 and Dock Workers (Safety, Health and Welfare) Act, 1986, Mines Act 1952 and Plantations Labour Act, 1951.

3.2 Legislations on Hazardous substances are :

The Explosive Act 1884 and Rules; Petroleum Act 1934 and Rules; Insecticides Act 1968 and Rules, The Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 made under the Environment Protection Act 1986.

3.3 Legislation on Hazardous activities are:

- 1 Indian Electricity Act 1910 and Rules made there under;
- 2 Indian Boilers Act 1923 and Indian Boilers Regulations;
- 3 Dangerous Machines (Regulation Act 1983) and

4 Atomic Energy Act 1960 and Radiological Protection Rules.

3.4 In India, the gamut of safety and health aspects have multiplicity of legislative approach with different administrative and enforcement arrangements. In order to achieve uniformity in the enforcement, Government of India has been considering the need for a General Enabling Act for securing safety, health and welfare of persons at work and for protecting other people against hazards arising from the work activities. This is under active consideration of the Government of India.

3.5 The provisions made under the Factories Act are based on various ILO conventions. The Factories Act was amended in 1976 and in 1987 to ensure better working conditions. The 1987 amendment to the Factories Act has brought in the concept of site clearance, before setting up of any hazardous process industries. It also requires the employers, for compulsory disclosure of information to the workers, Chief Inspector of Factories, local authorities and general public in the vicinity, regarding the hazardous processes carried on and likely consequences in the event of an emergency. The above amendment also prescribes the Permissible Limits of about 120 chemical substances. The employers are required to monitor the work environment so that the concentration of various hazardous chemicals, in the atmosphere, do not exceed the permissible limit.

3.6 While the broad coverage of legal framework of the Act is described above, some of the significant provisions in the amended Factories Act of 1987 are:

- * Definition of the term 'Hazardous Process' which is based not only on the capability of the process to cause material impairment of the health and safety, but also its potential to result in general environment pollution.

- * The industries carrying on hazardous process are to be identified as per the guidelines given in the Act.

- * The concept of right of workers regarding safety and health at work. According to the amended provision, the workers can demand from the occupier of the factory, any information relating to safety and health, to get trained on the safety and health aspects and to represent to the Inspector directly or through his representatives.

3.6.1 Thus, the various provisions made and amended from time to time under Factories Act could be considered as comprehensive and effective to afford a reasonable protection to the workers in the areas of Safety and Health.

3.7 The 2nd category of Safety Legislation dealing with safety in the use of hazardous substances envisages that reasonable care is taken inside the Factories to avoid any mishaps while handling the hazardous substances.

3.8 The 3rd category of Safety Legislation deal with some activities which are hazardous. The safety aspects relating to manufacturing operation, maintenance and inspection of steel boilers are covered under Indian Boilers Act and Regulations. Similarly, the safety aspects relating to the generation, transmission and distribution of Electrical safety including the safety aspects in its use are covered by Indian Electricity Act and Rules. In order to avoid the serious accidents involving loss of limbs in agricultural operations (eg. Threshers) the Act "Dangerous Machines Regulation Act" was brought in.

3.8.1 The safety and health aspects in the use of Nuclear Energy is covered under Indian Atomic Energy Act. Based on the enabling provisions under this Act Radiological Protection Rules 1971 are framed and enforced through Atomic Energy Regulatory Board.

4.0 Administrative Set up

Thus, the objectives in our Constitution are achieved through the legal frame work as described above. Yet, the number of fatal accidents occurring in the manufacturing Sector, Ports, Docks and Mines does show appreciable reduction. Possibly, the administrative set up and the infrastructural facilities needed for achieving the above objectives, need to be revamped, re-organised and strengthened. The matters relating to safety and health of workers in the country are the concern and responsibility of the Government of India. The Department 'Directorate General Factory Advice Service & Labour Institutes' (DGFASLI) is responsible for achieving the uniform enforcement of the safety statutes relating to Factories, Ports and Docks. Though the Ports and Docks are directly looked after by the DGFASLI, the enforcement of Factories Act is entrusted with the State Governments. The Chief Inspectors of Factories who enforce the provision of Act belong to the State Government. The DGFASLI is the technical arm of the Ministry of Labour concerning the safety and health of workers. Besides co-ordinating the work of Chief Inspector of Factories for uniform enforcement of Factories Act, the DGFASLI is also responsible for:

- * Research in the field of Safety and Health.
- * Advising the Managements in the technical areas concerning Safety and Health.
- * Awareness creation at Unit level, Industry level and National level relating to Safety and Health.
- * Increasing the technical capability of the regulatory Personnel.
- * Preparing and operating the projects on Safety and Health and allied areas with the co-operation of the International Agencies.

- * Assisting the Ministry of Labour to offer the comments on technical areas referred by ILO, etc.

4.1 The responsibility of DGFASLI is fulfilled through the Four Institutes located at Bombay, Calcutta, Kanpur and Madras. These Institutes are manned by technically competent and highly professional personnel in the field of Safety and Health. The Institutes are equipped with permanent Industrial Safety, Health and Welfare Centre, wherein, Safety appliances, Safety devices are arrangements are displayed. The Institutes have sophisticated Industrial Hygiene Laboratory to take up research and consultancy work in the area of work environment and pollution. The referral diagnostic centre is also available in these Institutes to diagnose the occupational diseases referred by specialists from recognised hospitals. The Central Labour Institute at Bombay, in addition to the above divisions, additional divisions like Productivity Division, Staff Training Division, Industrial Physiology and Ergonomics Division, Industrial Psychology Division, an Audio Visual Unit and Management Information Centre are available. In the Regional Labour Institutes, a small computer centre is available, which stores data on various information on Major Accident Hazard Control, Material Safety Data for Hazardous Chemicals etc. For the services rendered by the Institute, a nominal Fee is charged.

4.2 The Factory Inspectorates in the States are well organised and headed by a technical head in most of the States. The Inspectorates are having technically qualified persons, enforcing various provisions of the Factories Act.

4.3 The activities concerning the Safety and Health are strengthened by voluntary Organisations like National Safety Council (NSC), Loss Prevention Association of India Limited (LPA). The objectives of the NSC is to supplement Safety and Health. Few of the important activities of the NSC are

organising Conferences, Seminars and Training programmes, carrying out Safety Audits, Producing publicity and promotional materials etc. The objectives of LPA are to publicise the causes and magnitude of losses, to provide education and training in the field of Safety and Loss Prevention, to provide Consultancy and Advisory services and to build and maintain a Data bank on Loss prevention. The headquarters of NSC and LPA is Bombay. Their Regional Centres are available all over India. In addition to the voluntary organisation, the employers and employees organisations also cover the areas of Safety, training and information, publication of literature and liaison with Government agencies who are concerned with Safety and Health aspects. To mention a few, Confederation of Indian Industry (CII), Indian Chemical Manufacturers Association, Alkali Manufacturers Association of India, Manufacturers Organisations, Federation of Commerce and Industry have an arrangement to advice its members on Safety and Health through publications, pamphlets, circulars etc.

4.4 At the Unit level also, the creation of Safety awareness is achieved through Training Courses organised at various levels, publication of safety booklets, celebration of Safety Day/Week etc. The amended Factories Act of 1976 required the appointment of Safety Officers in the Industries employing more than 1000 workers, or Units which are engaged in hazardous process. The appointment of Safety Officers in the Industries has brought in a considerable change in the accident prevention scenario.

5.0 New Challenges

In spite of the efforts in achieving a near total safe working conditions in the industries, new problems do crop up from time to time. There have been many major accidents from the Industries in recent past. To mention a few, Bhopal disaster, Sriram Food and Fertilizers, IPCL Nagarhonne etc. In order to

have a system of Major Accident Hazard Control, the Government of India with assistance of ILO, a system of Major Accident Hazard Control was established in the country. An advisory Division on Major Accident Hazard control is functioning at Central Labour Institute, Bombay and a Cell in each of the Regional Labour Institutes. Factories Inspectorate of most of the States are also operating a Cell in their respective Headquarters to monitor the Factories having Major Accident Hazard potential. A significant contribution has been made by our country in the field of major Accident Hazard Control. Our approach in establishing a system on Major Accident Hazard Control has been followed by a number of developing Nations. The Major Accident Hazard Control Factories are closely monitored with more number of inspections, Technical guidance, Special training courses etc.

5.1 The economic compulsions, needs of modern living have introduced varieties of Chemicals and it is an on-going process. Their toxicity and potential to impair the health of people exposed to such chemicals are not known in respect of many chemicals. We have to depend on the R & D work conducted in developed countries. The entire data on the R & D work is not totally available to the developing nations. Even if the data is available, the country has few experts to interpret correctly the symptoms of the occupational diseases. Though a small beginning is made in this direction, we have to go a long way to create a sound base for diagnosing the occupational disease at early stage and controlling the same.

5.2 The environment pollution is another area which causes concern both to the Industry and the public. Because of the economic considerations, most of existing factories have not incorporated the pollution control devices at the design stage itself. Installing effective Pollution Control devices during the operational stage, leaves the managements in dilemma. Though the Department of Environment, Government of

India and the State Pollution Control Boards take effective action to control/minimise the environment pollution from the Industries, the pollution levels in respect of several parameters are still to reach the desired standards.

6.0 Conclusion

The occupational injuries can be minimised only if there is a system of accountability, which should not be in conflict with other interests. It is a common observance that there is a well established system of accountability for production, target achievement, profit etc. But Safety is not an integral part of the production in many of the Industries, as far as accountability is concerned. For better results in the area of Safety and Health, the accountability for Safety should be integrated with production.

6.1 The built in Safety devices and Safety systems for the plant, machinery and equipments are statutorily required whenever there is a serious danger. When such built in Safety devices are optional, they are often neglected by both the manufacturer and the users due to economical reasons. The quality and suitability of the Personal Protective Equipment (PPE) provided to the workers are debated quite often and the workers are reluctant to use them because of the humid conditions prevailing in the work places. No effort has been made to devise and design a suitable PPE to meet the needs of the workers, both to contain the hazard and the comfortability of wearing it.

6.2 The information on Occupational Health and Safety is inadequate and not available when we need it for various purposes. The management information system on Safety and Health should be available in atleast to the Major Industries and such data should be connected to a National network.

6.3 The infrastructural facilities such as transport, various equipments needed for better enforcement are lacking with the regulatory agencies. The enforcement officials should also update the technical knowledge in view of the fast changing technology in the manufacturing sector, creating new hazards and posing challenges with new Occupational diseases.

6.4 The legal framework to control the occupational injuries and diseases are available in the country. A fairly good set up is also available for the administration of various statutes and also National Institutes to take up the task of research and training in the areas of Occupational Safety and Health. Neither the management nor the workers desire that an accident should happen in their Unit. Still, the accidents do occur and could not be brought down considerably. Many of the workers are silently suffering from the Occupational diseases. This may be due to failure in the system in reaching the message to the concerned that Safety is a good business and equally important as production or any other work activity and that it should be integrated in all the decisions of the managements. It is not too late to rectify the system so that the workers enjoy the fruits of their labour without suffering and the Nation can also prosper.

Philosophy of Education : Some Thoughts*

Prolegomena

I am no educator. As some of you probably know, I am an economist. But all of us gather together in this seminar are educationists in the sense that each of us is engaged in the giving and or receiving instructions, and in that sense we are educators. In talking to you today, I have put together the principles which have guided/are guiding me in my learning experience. I call this bundle of principles my philosophy education.

The Scope

To start with, when reflecting over the philosophy education, we are in the business of tracing its underlying spirit and thought. We are in this context not concerned with its buildings, not its equipments, not its essential furniture and collection of books called libraries, not its students and teachers, not its text books, not its curriculum and syllabus, all of which make up the educational structure of any country. What then is spirit and thought behind the educational system which is its philosophy?

Education is Holistic

Education deals with the whole of the learner. It covers all matters that concern his body, which is specifically expressed in sports and physical education, it covers all matters concerning his mind which gives rise to the enquiring process through thought, to analysis and synthesis, and to philosophy as the content of education; it covers his spirit, which makes it a never ending aspiration and activity and results in the wholeness with all other spirits.

Education is life long

This foray into educational philosophy must open with the fact that education is never ending: it is a life long process, which runs from the cradle to the grave. Education is such that every one involved in it is learning every day and in every way. I am now 84 years old and I am continuing to learn every day and in every way. This life long character of education calls for our total commitment, a wholesome dedication which it decides what we do about it.

Education is learning

Education is learning how to learn; not what to learn which is found in textbooks and in the teachers instruction; not when to learn which is set forth in the time table and the academic calendar of the institution and the leisure time activities of the scholar; not the use of learning which is found in extension and in the application of learning to helping in earning one's living. Education is thus the capacity to learn how to learn and this capacity is not only never ending but also continuously increasing by being built upon cumulatively from the beginnings.

Education is work

From our earliest days we have learnt and we have realised that the dividing line between education and work is non-existent. Our early fathers Augustine, the Buddha and others taught us that to work is to pray, which means if education is coterminous with work, and not simply its extension or a form application, it is in that sense a form of worship.

* Extracts of the paper presented by Malcolm S Adiseshiah on the occasion of the Centenary Year of Sacred Heart College, Sathya Nilayam, Madras on September 8, 1994.

Education is a dialogue

Education takes place when more than two persons are involved. This involvement could be one of a living person with another, or several other living persons. It could be the conversation between a living person and a book, which embodies the thought and wisdom of others including those who are no longer alive. What it does not involve is a monologue, which is the death of education, and this is something that the teachers need to bear in mind because they are placed in the awful position of providing a monologue to their students every day. This predicament is further worsened by the teacher being placed on a platform above the level of his student. True education will have no distinction between the teacher and the student either physically or mentally. The teacher is as much a learner as the student is and so the ideal learning place, which is the classroom for the school or its equivalent in nonformal or informal educational settings will not have the teacher standing up on a platform and the students receiving his words of instruction. It will be a place where the teacher is among the students, is surrounded by his students and is learning also like a student. Here teaching is learning. This goes against our tradition of education as Indians, where the relationship between the teacher and the student is that of the guru shishya system. This system may be a useful tool for memorising mantras and repeating them through all of one's life. It is not learning, it is not education, which is a dialogue or a multilogue.

Education is service

The outflow of education is what is called extension. When I was for a brief period Vice Chancellor of this university, I arranged for all Boards of Studies in all disciplines to have the teachers and students test their theories and all their learning at the practical field level: the physics student, for instance, testing his knowledge of physics in the function-

ing and the repair of the agricultural farm instruments in the village: the chemistry student applying his knowledge of chemistry in order to establish the chemistry of the soil on which the farmer is planting his crop: the biology student helping to strengthen the animal husbandry properties of the farmer as a means of raising his income: the commerce student in helping the village panchayat in keeping its books of account and balancing its income and expenditure: the economic student in identifying the people living below the poverty line in the villages and helping them to rise above it, through various forms of self employment, etc. This Community and Social Service, in which I was fully supported by Father Kuriakose, who was then Principal of Loyola College and who was on my Governing Board - the Syndicate of the University - was part of the learning process for both the teacher and the students who brought back from work in the village or the urban slum their experiences in order to correct the formal syllabi and textbook material in light of their work experience. This means that education which attempts to limit itself to the four walls of the school, college or non formal structure is no education. This is what all our forbears were insistent on, and for which we coined the term basic education. After a lapse of some decades, we are now coming back to this truth with the University Grants Commission helping to introduce such vocational courses at the college and university level all over the country - the primary and secondary levels are already in effect vocationalised.

Education as character building

In the end, as Gandhiji taught us, the only purpose of education is the building of one's character. This is what the Christian Faith teaches as Jesus did through his many parables, of the wise virgins, of the men given talents, and in his crucified form when he endorsed the words of the thief who was crucified along side of him on his right. This

is the simple and ultimate test of the entire philosophy education, its building men and women of character. This is really an urgent and appropriate issue and is the end purpose of all education, because the ills of the world starting from cheating, corruption, violence, murder, untruths, on to wars wrecking Somalia, Bosnia and our own Kashmir and the designing, manufacturing and dropping

of atom bombs is by men and women who have had education - some even at the highest level. Infact no illiterate, uneducated person is involved in these grave misdemeanors, only the educated are involved. And so education must develop our character, if we are to serve ourselves, our society and our God in the image in which he created us.

SPECIAL SECTION

**A Selection of Papers presented at the
24th Interdisciplinary Research Methodology Workshop
held at ICSSR Southern Regional Centre, Hyderabad
from
June 7 to 10, 1994
on
Human Resources Development**

Gender and Social Reform : Discourses of the Nationalists and The Dravidian Movement in Colonial Tamil Nadu : An Outline

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Introduction

THE political terrain in late colonial Tamil Nadu was a site of contending discourses about women with an overarching presence of nationalism and its inevitable ambiguities. At one end, we have the nationalists who were trying to contest the colonial project of caricaturing the culture of the 'natives' as barbaric, by reconstituting and defending past traditions- occasionally reminding one of Fanon's dictum that "the desire to attach oneself to tradition or bring abandoned tradition to life again does not only mean going against the current of history but also opposing one's own people" (Fanon:1985:180). At the other end of the spectrum, there was the activists of the Dravidian movement who perceived themselves as the victims of this nationalism and without the burden to constitute a national culture, questioned the formulations of patriarchy promoted by the nationalists and attempted to provide new strategies to counter the same. In this paper, we would outline some of our arguments about the nationalist and the dravidian discourses on women's question.

Our contention is that the pre-existing and socially constructed sexual differences in Tamil society and culture were reconstituted by the nationalists to reconstitute patriarchy in the public sphere and in the process they formulated and deployed the separate sphere ideology- an ideology which not only redefined the private sphere as an alternative to western materialism and justified home as women's legitimate place, but also gendered all political and social practices. In the process, the discourse of the nationalists redefined women political partici-

pants as mothers and wives in the public arena and women themselves who were participants in the national movement reinforced this patriarchal notion of womanhood. Simultaneously, this paper would argue, the contestatory discourse of the Dravidian movement, which questioned the public patriarchy promoted by the nationalists as well as the other pre-existing forms of patriarchy, did give rise to different forms of political participation and consciousness among women.

Methodological Approach

Conventional historiography treats male as the universal subject of history and in that process, it excludes or devalues women as subject of history. This androcentric mode of history writing has led to the absence or invisibility of women in historians' texts. Importantly, this invisibility is more often than not a product of lack of information about women and their role in historical processes, but despite the availability of such information. It is a product of conscious or unconscious male bias in history writing. For instance, in the Tamil context, studies on the Self Respect Movement (which later developed into Dravidian Movement) have characterized it as 'revivalist', 'Pro-British', 'anti-Brahmin' and so on, while consistently silencing the discourse of the movement on women's question and the manner in which it challenged the ubiquitous structure of patriarchy in Tamil society.

In this context, the feminist historiography of the recent times has consciously attempted to make the hitherto invisible women

visible; and feminist historians have been rather successful in recovering women as subjects in the unfolding of historical processes and their voices as part of the ideological milieu. By now we have plenty of works on women's participation in the national movement which effectively challenge the marginalisation of women in history writing. As Kumari Jeyawardene points out, "...this [genre of history writing] signifies an addition of women into the framework of conventional history... this history... is a 'contributive history'. This in itself is important, asserting that women have played a role that has been consistently ignored, and correcting the picture of men as the only historical actors" (Jeyawardene: 1986:260-261).

Despite this extremely significant and positive contribution by 'contributive' history, such history writing is riddled with its own problems. By its exclusive emphasis on women it has granted space for the androcentric historiography to ghettoise these studies as 'women's history', and to treat them as an epiphenomenon of history-writing practices. In other words, despite the newly acquired visibility of women, the universal male subject continues to rule the roost of mainstream history writing. As a necessary response to this historiographical reality, the feminist historians have moved away from 'women's history' to the history of gender.

Conceptual Categories

Before we embark on a discussion on contending discourses on women's question in Colonial Tamil Nadu, we would briefly define some of the conceptual categories used in this paper. We would define Discourse as ways of talking, thinking or representing a particular subject or topic. For example in our study women form the discursive subject. Socially and historically conditioned discourses are production of knowledge which influence social practices and so has real consequences and effects. Discourses are

not reducible to class-interests, but always operate in relation to power-they are part of the way power circulates and is contested (Foucault: 1980).

The concept of patriarchy has been defined, in this paper, as a "system of social structures and practices in which men dominate, oppress and exploit women" (Walby:1990:20) As we understand Patriarchy is not a historical constant. The differential impact of major historical changes can be analysed by differentiating between degrees and forms of patriarchy (ibid). In our study we refer to two forms patriarchy: private and public. In private patriarchy, associated with the household, it is man in his position, say, as husband or father, who is the direct oppressor/ beneficiary, individually and directly, of the subordination of women. Public patriarchy is a form in which women have access to both public and private arenas. Here the exploitation and expropriation of women is performed more collectively than by individual patriarchs. A movement from an individual to a more collective form of appropriation of women also implies a shift in patriarchal strategy from exclusion to segregation and subordination (ibid:passim.)

Here, we define gender as a context-specific social construct located in history and social practices. To put it differently, gender means how men and women are socially constituted and how such constructions are given ideological meanings delineating relations of power based on sexual differences is extended, through metaphors, to all spheres of social life to signify situations of iniquitous power relation (Scott:1989). To cite an illustration, as Ashis Nandy has shown, the colonial discourse represented the colonisers as super-masculine and the colonised as effeminate. (Nandy:1983) Thus 'gender history' can address a whole range of themes such as class, ethnic groups, colonialism and so on, and not merely that of women. Hence the history of gender

ceases to be merely the history of women and can move from the periphery to occupy certain centrality in history writing.

The Nationalist's Discourse on Women's Question

In the Indian context, caste, class and gender hierarchies have been the organising principles of the brahmanical social order. With the arrival of colonialism, the Hindu social order which defined women as impure to be subordinated and subjected to humiliating conditions of existence were merely reinforced along the western sexual stereotypes in which political and socio-economic dominance of men over women were seen as natural (Nandy: 1983). In this context it is interesting to note how the colonialist's attempt to reform the Indian social system by reconstituting the oppressive, anti-women, brahmanical social order, was based on essentialisation and denial of 'agency' for women.

The nationalists on the other hand, in an attempt to counter colonialism and validating its project of self-rule, even while addressing the women's question reconstituted patriarchy. The nationalists' urgency and in a sense the historical necessity, in the face of colonial onslaught, to imagine a glorious past and an indigenous/national tradition as opposed to and distinct from the western/colonial acted as a constraint in looking for solutions to the women's question. In this process, the nationalists not only troped women for the nation, but more important women became the site to contest colonialism. Only within this framework of distinguishing the traditional/national from the western/colonial, women were mobilised in large numbers to take part in the public activities of the national movement. The participation of women in the public sphere was legitimised by representing them as chaste wives and loving mothers and thus the nationalists valorised, among other things, monogamous familial norms.

In the case of Tamilnadu, S. Satyamurti the orthodox brahmin leader of the Congress party and Thiru V. Kalyanasundara Mudaliyar, a prominent non-brahmin leader in the congress party represented the quintessential nationalist perception of women's question as part of the social reform agenda. For instance, Satyamurti's arguments against the social legislations such as the Sarada Act, the Divorce Bill and the Devadasi Abolition Bill were premised on the understanding that the practice of child marriage, devadasi system and so on were parts of ancient Hindu (more precisely, Brahminical Hindu) traditions, and those practices had to be preserved as indigenous/national culture in the fight against colonialism. Similarly, Thiru V. Kalyanasundara Mudaliyar glorified motherhood and the chastity of women as part of national tradition. In their discourse, nation was constituted by affirming tradition as national tradition. In order to reconstitute traditions women became the carriers of such national culture they created a series of binary opposites such as male vs female, private vs public, nation vs. colonisers, indigenous vs. western and spiritual vs. material. Women's question was addressed only within these binary opposites (Anandhi, 1992: Chapter 2).

The ideological sway of such nationalist constructions was so effective that the women participants in the national movement in Tamilnadu perceived themselves as ideal Hindu women and accepted their traditional roles both in the public and private spheres. For example, the middle class/upper caste women participants took efforts to differentiate themselves from the much despised devadasis and prostitutes; and thus validated the politics of respectability that the male nationalists flaunted in the public sphere. It was indeed the sisterhood of the 'respectable' women, respectability being defined in the most traditional patriarchal terms, which marked their participation (Ibid).

The Dravidian Movements' Discourse on Women's Question

In contrast to the nationalists the Self Respect Movement, which came into being as a response to the Brahminical domination in the Tamilnadu Congress, stood opposed to Congress-kind nationalism. Not trapped within or constrained by the discourse of nationalism, the Self Respect Movement was free from the need to look for a past to legitimise the nation as well as to defend tradition as national. This provided the Self Respect Movement with an expanded and radically different political space to look at and take up women's issue in an entirely different way compared to the nationalists. The ideological thrust of the Movement led it to question Brahminism and Hinduism as legitimising forces of patriarchy in Tamil society. Given this, the Self Respect Movement developed a trenchant criticism of the key categories of patriarchy such as marriage, monogamous family and chastity. We may recall here that these categories remained valorised in the discourse of the nationalists.

It was not only that women's issues occupied a position of great importance in the agenda of the Self Respect Movement; but women's involvement in the Movement was also extensive. The Movement provided space for women activists to involve in all its activities as equals to male activists. The women activists of the Self Respect Movement exhibited strong anti-patriarchal consciousness and discounted traditions which were sanctified by religion, as enslaving women; they also off and on came out with open criticisms attacking the Movement for not being sufficiently radical in taking up women's issues (Anandhi, 1992: Chapter IV).

Moreover the Self Respect Movement was able to launch a thorough-going critic of the pre-existing traditions, including religiously endowed patriarchy. This was the source for the Movement's radicalism.

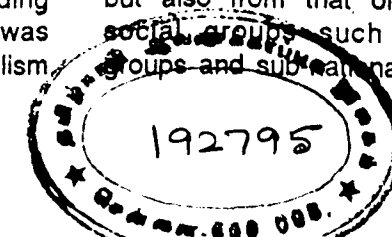
In addressing the women's question. The binary opposites of the national and colonial did not constrain the Movement in addressing the women's question and its career was a career of critiquing the retrograde trends within Indian nationalism. Interestingly, the movement exhibited such retrograde tendencies as the Indian nationalism with regard to women's question, when it took up the issue of Tamil nationalism through the anti-Hindi agitation of the late 1930s. Then it was faced with the problem of searching for a glorious Tamil past and in that process troped women for the Tamil nation!

Conclusion

In short, the specific nature of Indian nationalism acted as an important constraint to any progressive resolution of the women's question in colonial Tamil Nadu. In constituting the Indian nation as an 'imagined community' in opposition to the colonial project, women's freedom was subordinated to the ideal of the national and patriarchy was reconstituted and reaffirmed. It was the distancing from the ideal of 'freedom' propagated by the nationalists which provided room for the Self Respect Movement to address the women's question in radical terms. In conclusion, it may not be out of place to quote Aljaz Ahmad's poignant essay on nationalism:

... Nationalism *per se* is neither progressive nor retrogressive, nor does it have a distinct class content prior to its incorporation in the discourse of a particular class or a particular power block which arises in particular and determinate historical circumstances. The real issue is: Whose nationalism....? (Ahmad: 1989)

Whose nationalism? The question is pertinent and needs more explorations not merely from the point of view of women, but also from that of other subordinate social groups such as minor ethnic groups and sub-nationalities.



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Dalit Women : The Conflict and The Dilemma

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DALIT women have been referred to as the dalits among the dalits, the thrice alienated and the thrice marginalised. However is the Dalit women an identifiable category? How is it different from their effect on other women? What is the role and contribution of dalit women to dalit and women's movements? Would these movements bring liberation to the dalit women and beyond all these, is there scope in organising the Dalit Women? These are some of the main thoughts behind this paper. Most of it is based on observations and experience. Our experiences and also the experiences of the many working with dalit women are expressed in these paragraphs.

The Characterisation

Lakshmi is the temple sweeper, dedicated to the temple since childhood. She lives with her beautiful teenage daughter, seen by all, known by one. Standing before the deity, she quietly drives a knife into her daughter. She prefers her death to sending her to the commissioner who is visiting the temple. She herself has been a victim of society, having loved a man, who could not claim her, bearing an un-fathered child, used and looked down upon by society. She had educated her daughter, trusting in a new future for her in life. But the commissioner's visit had shattered her dreams. She did not want her daughter to tread the path she herself had tread.

Kashi is the heroine in Bhimrao Shirwale's story 'Livelihood'. Kashi, a daughter of the slums is married to Dhama, who goes to jail for an accidental murder. To stay alive in her 20 year wait for Dhama to be released she becomes the mistress of Kesu Ghatgir, the

one eyed bootlegger. In her struggle for survival, the hideous looking child of hers through Kesu becomes her source of livelihood exhibiting him for alms. A crowd would queue up before her door every day to lease the child out for a day for Rs.15.00 to Rs.20.00 for begging. The day Kesu comes to claim his son Kashi's life and livelihood splinter apart.

The Differences

One is struck by the differences in the characterisation of Lakshmi and Kashi. Both are dalit women, but Lakshmi is a heroine we can recognise, one clothed in middle class values and upper caste terminology. Heroines like Kashi is the portrayal of the real life dalit women, telling us her story of "pathos, protest and the indefeatable will to survive". Lakshmi is a victim of circumstances, bearing her burden quietly and at pains to mould her life into dominant values of the dominant culture. She prefers death to dishonour and when she is not able to cope she quietly withdraws. Kashi is the undying spirit that rises up and takes new forms every time circumstances try to crush her. She is the surge of life where the culture and value is living and life alone.

It is time we acknowledge the differences in Lakshmi and Kashi. Is it the portrayal that is different or is Lakshmi different from Kashi or are we divorcing Lakshmi from her 'self' and portraying her? What is the relationship of Lakshmi or Kashi to the real Dalit women? As her character is emerging in literature are we able to also recognise her at the cross roads of a new awakening, compelling us to see through her eyes - THE DALIT WOMEN.

Dalit Women - An Entity

Dalits meaning the broken, the oppressed, in practical terms the Untouchable's form 15.74 per cent of our population. The proportion of women to men is 927 to 1000 (1991 census); forming 64 millions of Dalit women in our country. The population of all the Dalit women in our country almost equals the total population of Andhra Pradesh (66 million); their sheer number demands the undivided attention of an social development, change or movement.

Many studies have shown that in measurable and objective terms in social status, economic independence - wage, employment, occupation and assets, social welfare-education, literacy, health, social mobility and political organising Dalit women are in a worse off position than Dalit men or non-Dalit women. An example would clarify this.

Literacy rates¹

	1971	1981
S.C. females	6.45%	10.82%
S.C males	22.43%	31.12%
Females - General	22.45%	29.43%
General population	33.80%	41.30%

Their social situation is characterised as the "Dalit among Dalits" (Ruth Manorama), the 'Thrice Alienated' and the 'Thrice Marginalised'. She is the Dalit among Dalits, bearing the most heinous forms of violence, oppression and dehumanisation. She is Thrice Alienated from the resources of society owing to her gender, caste and class. She is Thrice Marginalised from all movements, from social change viz-the class movements, the caste movements, and the women's movements. People have tried to define her as a "diversive force", a tool being used to divide the dalit movement an women's movement, an "imaginary category" with no real identity of her own and an "emerging category" that needs to be recognised and given space for.

Empirical studies make it obvious that while Dalit women share many of the same disabilities arising out of the class position along with poor in general caste along with Dalit men and gender with all other women, the extent, intensity and depth vary. The cumulative effect of the caste, class and gender is qualitatively different from the impact of each of these independent factors. Let us now look at how these three powerful forces act in isolation and in combination on the Dalit women.

Her Class

- Being poor she is caught up in the circle of lack of education or marketable skills with no chance for reasonable occupation and poverty again pushing her daughter through the same cycle.
- Being totally assetless to fall back upon she has no economic standing or independence.
- She is totally dependent upon wage labour and in informal sector that is hard to come by, laborious insecure, uncertain, poorly paid and exploited.
- She carries the double burden of work outside and inside the home, many of them the sole bread winners of the family, with no help or support.
- Her illiteracy and lack of organising keeps her out of available designated welfare measures and possible resources.
- Being poor she is abused and exploited by the landlord, the employer, the government officials and the general public.

Her Caste

- Being a Dalit she is an untouchable.
- She is restricted from entering the homes of other caste people, from entering the temple, discriminated at the village bore pump, at the local tea shop.

- She is made to feel inferior and unclean even in places where she is supposedly equal - in schools, colleges, work place.
- She is the victim of violence, atrocity, oppression and exploitation arising out of caste hierarchy.
- She finds no support from politicians, bureaucracy, police, judiciary, or other caste in the struggle for dignity and justice.
- Her social mobility in any field as education, employment, clothing, habits is the butt of joke or comment by others.

Her Gender

- She bears the double burden of outside labour and domestic work.
- She is subject to the male members of the family.
- Family violence like wife beating is common among Dalits too.
- In her work she is discriminated against, restricted from certain works and paid less and unequal wages.
- She is vulnerable to sexual abuse from landlords and other Dalit men too.

The three forces act not only in isolation but also place specific limitations and discriminations in combination on the Dalit women. While it is not easy to analyse definite causal and supportive roles of one to the other their interplay and composite nature cannot be negated. This can form an interesting area for further study.

Caste - Class

Reflection and experiences show a direct and causal role of caste to class in the case of Dalits. The disabilities and limitations placed on Dalits in terms of education, occupation, social interaction and social

mobility have resulted in their being pushed to the lowest class - so much so caste and class are synonymous in our society and some even prefer to call this 'CHASTE'.

It is not an accident or coincidence that 49% of S.C.s are agricultural wage workers as against 25% in the general population (Bandopadhyay-1986) that 85% of S.C.s are landless or near landless owning 0 to 0.50 acres (1981), that Dalit constitute only 16.18% of our work force (1987). The fact that these are recent figures, the agitation against Mandal and the anti-reservation struggle in Gujarat explode the myth that there is a great social mobility among the S.C.s through reservation and that caste is no more a matter of relevance. Coming to Dalit women, she faces the same limitations and marginalisations in a more severe form. The majority in the community being landless, there is no possibility of her owning land. Even when government land, house site or any other asset is assigned it usually is not assigned to the women. The restrictions on certain types of employment, assignment of 'unclean works' lack of organising and network lead to further subjugation and poverty. A very direct, causal, supportive and reinforcing role of caste is evident in our class structure. The impact of caste and class on Dalit women is more than the mere sum of these and even more than the impact of caste and class on Dalit men or non-Dalit women.

Patriarchy - Class

- A direct casual effect is difficult to establish here though the interaction cannot be negated.
- Her poverty leaves her with scarce resources to keep body and soul together. She acts the last and the least, she needs like health and other facilities are given least importance.
- The less paid, and supposedly lighter work is assigned to her.

- She is not paid equal wage along with Dalit men.
- Certain agricultural operations like ploughing is denied to her.

Patriarchy - Caste

- The Dalit woman faces atrocity, violence, rape, and oppression by men of other castes much more than other women. She is considered to be of loose character and easy virtues.
- In times of caste fights she is used as the tool and means to take revenge.
- The devadasi system is an extreme form of forced prostitution the Dalit women are subjected to.

Authors like Gabrielle Dietrich have focused on the striking parallels between patriarchy and caste. The purity - pollution concept, women considered ritually unclean to perform certain pujas, learn sanskrit or listen to the srutis as the Sudras and Dalits are instances of the strong similarities found in gender and caste oppression.

The woman - man division and hierarchy is found in a more systematised, stringently codified, religiously ordained, hierarchical and closed manner in the caste system.

Dalit Women in Dalit Movements

Dalit women have been part and parcel of many struggles of class, caste and gender. But a study of the literature on these struggles hardly give us any picture of her participation, role or contribution to these struggles. As it is rightly said the presence of a large number of women in a struggle does not make it a women's struggle. The two movements with which the Dalit women can most clearly identify her struggle are the Dalit movement and the women's movement. I will attempt to sketch the response of these two movements to the question of the Dalit women.

The most urgent, immediate and obvious issues faced by the Dalit women are those arising from caste and untouchability. It is also true to say that the Dalits including the women have become more conscious of the oppression of the caste system which plagues them from before birth to after death. Struggle against caste hierarchy, oppression, atrocity, rape struggles for self dignity, rights, justice and claiming of their roots have become the guiding lights of the Dalit movements. These are also undoubtedly the very serious issues faced by the Dalit women. The Dalit movement are thus inclusive of the Dalit women's issues.

A fact is also that the Dalit issue is one of the most burning issues in our country. In this relationship with the Baruka community in Japan, the apartheid in South Africa, the Blacks and the Indians in the U.S. in the struggle of all indigenous people, it is also an international issue. In the political arena too the Dalits have become a very potential force, the Dalit movements are thus at a phase of trying to consolidate themselves as an identity, a community and also work out its equations along with other marginalised sections as a political force. This is now termed as the Dalit Assertion and the time is pregnant with possibilities.

At this point any raising of the Dalit women question within the Dalit movement as an issue is considered a weapon to divide, undermine and weaken the Dalit movement by the leaders of the movement. It is considered a pitching of the Dalit women against the Dalit men, and the sidetracking of the caste by the gender issue.

Another construct is also that Brahminism is the root cause of all oppressive and hierarchical orders within the Indian society of both caste and gender. The pre-Aryan society is eulogised as a society of equals. It is thus argued that the fight against brahminism is the crux of the issue and will lead to a breakdown of caste and gender inequality and oppression. The Dalit move-

ment claim that the Dalit women enjoy more liberty and freedom when compared to other women which is a fact. Her role and contribution to the economy of the family, her freedom through working outside the family along with other Dalit women and men, the relative freedom and acceptance of man-women sexual relationship, socio-cultural patterns and the severe deprivation faced by the community on the whole has led to a more balanced and equality relationship between Dalit women and men.

This is not to deny gender inequality within the Dalit communities, the male image that the Dalit men develop is similar to that of the society around them. Hence we find that male children are preferred; girl children get marginalised with respect to food intake, education, with extra household chores and in socialisation; the married women face harassment, wife beating, oppression and desertion; the women do not participate in panchayats - the patriarchal system is the order in the Dalit communities too.

A look into the Dalit movement show men almost exclusively in the leadership positions. Women or the mass, the crowd in these movements. It is even considered strategic to have women in the forefront. The agenda of the movements - fight for land, but not for entitlement for women, for minimum wage but not for equal wages.

In the height of caste tensions we find that all men leave the village and women and children face the wrath. Gabrielle Dietrich² has dealt in detail how a rape case was dealt by Dalit movement in Tamil Nadu. The rape finally became the secondary issue and the caste tension between the communities became the primary issue and the rape victim could get no justice. Similar is the experience recounted by groups like SRED, PRAJWALA, when it has attempted to focus and take up issues of Dalit women.

One cannot deny the patriarchal nature of the Dalit communities, despite relatively more freedom for the women within the community. Demands and restrictions on women increase as the family climbs up the economic ladder. The Dalit families that are in the middle class brackets in urban areas or those that have sufficient land for themselves follow the patterns of typical middle class and other upper castes. The dominant values are favoured and this leads to a new zeal in protecting and controlling the women, who are now the keepers of virtue and family esteem. Similar values are exhibited in the Dalit movements too though it is coming to be questioned more and more.

Dalit Women in Women's Movements

The last 2 decades have seen the growth of consciousness and articulation of women's issues especially among educated, urban middle class women. The issues raised by this movement has been mostly on price rise, dowry, rape, reproductive rights, fertility drugs, uniform civil code, man-woman relationship and the like. By and large the women's movement has remained distant from the lives of Dalit women, even though they have at times tried to articulate it. But the articulation as we saw at the beginning of this paper is quite different from that by the Dalit themselves.

The issues of Dalit women like untouchability, caste discrimination, sexual violence by upper caste men, the very skewed pattern of land distribution, lack of assets and resources, inaccessibility to government and other welfare and administrative measures, Devadasi system, which has cornered Dalit women and maintained their status quo has not found a resonant vibration in the women's movement.

The practice has been to club the Dalit women's issues under the caption of women's issues and discuss it in general terms

trying to analyse them as women in higher education, dropout rates of girl children, employment pattern of women, resource allocation to women, assets and landlessness of women, rape and atrocities against women, man-women relationship and so on. In this the movement has not been able to identify that the face behind these is that of the Dalit women. While the factors are analysed and focused, the Dalit women have not been integrated into this analysis and focused. It is thus not a surprise that the National Women's Conference that was initiated in 1982 did not take up the Dalit women as a sub theme till the 5th conference in 1994 in Tirupathi.

The women's movement too like the Dalit movements recognise it as dangerous to divide women into Dalit and non-Dalit sections for reasons similar to those exposed by the Dalit-movements. Further, it is argued that 'All Women Are Dalits' and no further division should be 'created'. It is true that in the patriarchal society women are marginalised, it is also true that the marginalisation, exploitation and oppression faced by Dalit women is not equal to that faced by other women. Understanding oppression and marginalisation is like the un-peeling of the onion. We start with the most immediate and obvious, because that alone is within our grasp at that moment in time. It is possible to start only from there. As we try to delve more, other deeper forms of oppression face us. Thus we have progressed from the system theory of society (Emile Durkheim) through the conflict theory of Marx, to the community theory of Emerson who propounded that people are of different - ethnic groups, races, religions and cultures, but are equal before law. Today the experiences and expressions by marginalised people all over the world and the Dalit women and men in our own country deny this 'equality before law' proposition. It is time to recognise and respect these differences and their cause-effects.

A major handicap here is in the understanding of women's movement. Autonomous women's groups are moving towards a position of participation and decision making solely by women in the women's movements. Along with this, women's movements are seen as those that question the inequality between the two genders. Hence the struggles of Dalit women against untouchability, atrocity, liquor, land alienation and low wage are not looked upon as strictly within the purview of women's movement as the composition and decision making within these movements is not only women.

They do not question the basic inequality between the gender and may not also lead to an obvious, immediate difference in the equation between women and men. The Dalit women's struggles are all of these forms and find their place more naturally within the Dalit movements.

Dalit Women - Her Space Within the Struggle

The disabilities shared by Dalit women with Dalit men and women in general cannot be negated. However, the presence of agricultural workers in Telangana movement, or Dalits and women in class movements did not automatically bring liberation, freedom or equality for dalits or for women. While there are marginal and proportional changes it did not question or change the inherent and basic injustice and bias in the society. It did not change caste hierarchy or gender inequality. Along the way, much later, these have been recognised and movements are now afoot to change these more deeper inequalities. Similarly the Dalit women would find that there is no automatic liberation for her in the Dalit movement or women's movements, though changes would occur. Along the way she needs to raise the question of her participation and relationship in these movements. It is not to say that the Dalit women's struggle is an isolated anti-Dalit,

anti-women struggle. There are many of her fights she needs to fight hand in hand with these two movements. The question of her role and contribution in them should be raised - her space within the struggle.³

Micro-experiences in different pockets is a testimony to the relevance of the dalit women question. The experiences of most action groups is a consistent and very potent involvement of dalit women in struggles. The study by Jose Kananakal of the Bihar Dalit Vikas Samithi, states that here the dalit women are in the vanguard for any change among the 30,000 members. The organising of Dalit women was slow and difficult in the beginning but later they become the backbone of any change. The experiences of SRED, (Society for Rural Education and Development) in Tamil Nadu, of Women's Voice in Bangalore, of Anveshi in Kerala, Adavalla Hakkula Sangam in Andhra Pradesh are all experiments and experiences of Dalit women in fighting oppression and injustice and of creation of more humane and just societies.

The role of dalit women in the struggles in Karamchedu and Tsundur which took on a Dalit movement form also indicate the role and contribution she plays in a struggle. The mainstay of these struggles were women and one cannot deny that these are also essentially aspects of women's movement and need to be recognised as such.

The anti arrack movement in Andhra Pradesh was largely by the Dalit women. The problem of arrack in a short span became crucial for them that there was a spontaneous movement against it. Middle class and other caste women hardly joined the struggle though support was extended in terms of publicity, sympathy seminars and moral support from some quarters. The experiences here show that dalit women are able to take up issues at wider levels and pursue them consistently. To do this it becomes essential that the issue is of vibrant importance to them, of an urgent and immediate

nature, having very obvious effect on their day to day lives. Their fights are not of the abstract kind with philosophies and ideologies that are distant from their day to day experiences.

The women's movement has not recognised the inherent strengths and historically created weakness of the Dalit women. This has resulted in an exclusion in the analysis and taking up of issues between Dalit women and women's movement. More serious work needs to be done to look into these so that the women's movement can focus on the disabilities of Dalit women that are specific and most particular to our society.

Dalit Women - More Resonant with Dalit Movements

The Dalit women have merged as an identifiable entity. Their participation in all struggles is a historical fact, though scarcely acknowledged. The struggles have failed to recognise the Dalit women's face behind their facts and figures.

The Dalit women share a lot with the Dalit movements and the women's movements. The struggles are common in many aspects and overlapping. At present of the two movements the Dalit movement has addressed very crucial and deep rooted issues of caste hierarchy, untouchability, atrocity and oppression while also focusing on self dignity, and justice. These are the every day, immediate and urgent issues faced by the Dalit women and hence the Dalit women have a better chance to work for their caste liberation from within the Dalit movement. The Dalit movement at present is emerging as a potential force and the possibilities of a better equation in society is realisable.

The women's movement on the other hand has not been able to identify the issues of Dalit women as those of a distinct group within women's movements. The emphasis placed on issues of caste, untouchability, landlessness of Dalits, skewed distribution of

assets, caste atrocities is not sufficient here for the Dalit women to put in their lot with the women's movements at present. Questions of men-woman relationship and gender discrimination does not hold the same immediate of urgent nature in the environment of the caste discriminations faced by them at large.

It is thus obvious that Dalit women have greater possibilities through the Dalit movements than the women's movements. What now is their role in the Dalit movement? Is it the mass without an identity or is it an appendix to the main body. At present these are the two positions Dalit women occupy within the Dalit movements. Educated cadre and volunteer among Dalit women are finding this an unsatisfactory arrangement. They voice out the need to recognise the role and contributions of the Dalit women in the Dalit movements. This can be done only by the inclusion of Dalit women in leadership positions within the movement, analysing the issues from a gender perspective, looking into the possibilities and constraints placed on the Dalit women by any issue, making strategies and plans such that she can guide, control and participate totally. It is also essential that the movement does not shy away from addressing the gender issue within the movement and the Dalit community, administer justice to victims even if the perpetrators are Dalit men, with the full realisation that it will strengthen the movement than weaken it. Not harnessing the potential of half the community is a great loss to the movement. A very identifiable, recog-

nisable and independent role needs to be envisioned for Dalit women within the Dalit movements. The change must also be from within the movement and the community. Dalit women must claim the space within the Dalit struggle.

The Dalit women need also recognise the gender bias not just within their community but in the whole of society. It is a struggle all women go through though in different degrees and forms. From an identifiable, strong position within the Dalit movement, the Dalit women should extend and cooperate with the women's movement. They should be able to network with the women's movement. It is not desirable that they subsume their identity under the women's movement at this juncture. As a force from outside they need to support and work together with the women's movements. I would feel this is a very sensitive and important area. If the women's movement in India has to reach the most oppressed among our women, wants to address limitations specific to our culture, and envisages a humane, just society it cannot be with the exclusion of the Dalit women question. Women's movements need to take up the cause of the Dalit women in our society which can reach the most un-reached of our women and question basic inequality patterns. It is only if we can question the twin aspects of caste and gender that we can work towards a society based on equality and justice.

Notes

- 1 Neela Devasia, "Social mobility among S.C. women in India".
- 2 Gabrielle Dietrich (1992) "Reflections on Women's Movement in India", Horizon India Books, New Delhi.
- 3 Ilina Sen, (1990) "A space within the struggle", 1990.

Labour Force Participation of Women in Rural India

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1 Introduction

IN 'Patriarchal' societies women are confined to performing the role of home makers, while men are considered to be bread winners. Women in such societies enter the labour market as a result of poverty and the consequent 'struggle for survival'. This sort of - 'survival threatened' - labour market entry of women leads to exploitation in the labour market through discrimination. The labour market regulations regarding : hours of work, working condition and minimum wages are evaded by exploiting the vulnerable position of women workers. Apart from being exploited in the labour market, women workers bear 'double burden' in as much as they have to perform domestic functions such as: child rearing, cooking and maintenance of home, firewood collection and water carrying (Sen, (1985)), and also directly participate in the production process.

'Survival threatened' labour market entry of women - although leads to exploitation in the labour market and results in women bearing the 'double burden' - as Nagaraj, (1989) observes, provides economic independence and exposure to a world outside their home. He points out further that such involvement in production process is an essential pre-requisite for their social emancipation in as much as it widens their horizons, provides them 'Social Knowledge' and 'Social Education'. In this context, it may be pointed out that the objective of this paper is not to evaluate the 'desirability or otherwise' of labour market entry of women, but to analyse the importance of various factors determining the extent of involvement of women in the production process.

Given the objectives of this paper, broad factors that determine the labour force participation of women are identified and the importance of each one of the factors is evaluated. Economic factors, particularly poverty, induces labour market entry of women. In this connection, it may be pointed out that several studies have evaluated the impact of poverty on labour force participation (henceforth denoted as LFPR) of women employing proxies for poverty/standard of living. In this paper, the impact of poverty on LFPR of women will be assessed employing direct measures of poverty - poverty indices. Apart from poverty, landlessness - as land is the major source of livelihood and symbol of social status - and instability in earnings, particularly instability in earnings of men, are considered to be important determinants in this study.

In a society such as India's, which is characterised by cultural diversity determined by: caste system and practicing different religions - sociological factors - in addition to purely economic ones - may be expected to have considerable impact on the nature and extent of involvement of women in the production process. Thus, the importance of sociological factors : caste and religion as determinants of LFPR of women needs to be assessed. Development in social sector, particularly spread of education, influence a great deal the social attitude towards female socialisation and hence the labour market entry of women. To this end, the role of education as a determinant of nature and extent of LFPR of women will be assessed.

This paper - in the process of evaluating the importance of the various factors in determining the LFPR of women in the rural area - will demonstrate the utility of disaggregated analysis of data as an alternative to the commonly used multiple regression analysis. In this context, it must be pointed out that studies in this area rely, excessively, on data aggregated both across space and over social groups. The reliability of the estimates obtained and the inferences drawn on the basis of such analyses of data - however sophisticated may be the statistical tool employed - are often questionable. These results are weak and unstable for, among others, the following reasons: a) the level of aggregation - the state - restricts the number of variables or factors that could be incorporated, and hence renders the analysis incomplete - commonly known as the problem of exclusion of relevant variables and b) the extreme observations, to a large extent, affect the relationships explored - the ordinary least square estimation procedure, widely used, accords undue weight to the extreme observation. Thus in such circumstances, simple exploration of the data - disaggregated to the finest possible extent afforded by the availability - helps us to identify, clearly, the nature and complex interaction of the various factors in determining the LFPR of women. Given these objectives, one could resort to either an analysis of temporal variation or an analysis of spatial variation at a point of time to bring out the importance of the various factors in determining the LFPR of women. It is well known that time series estimates of LFPR are clouded with definitional problems of work force. Hence, to infer the significance of the various factors in determining the LFPR of rural women, I resort to an analysis of 'spatial variation' at point of time. To this end the National Sample Survey data on Employment and Unemployment for the year 1982-83 are used - the list of publications from which the data relevant for the analysis are called is given at the end of this paper. The choice of the source of data dictates the

unit of analysis: the state. But, as indicated earlier, the data disaggregated by caste, religion and by educational attainment are used to illustrate the importance of disaggregated analysis.

At this juncture, it is important to clarify the measurement of LFPR. The National Sample Survey classifies workers into four categories: principal status, subsidiary status, current weekly status and current daily status workers. Based on these classification of workers four estimates of total workers are obtained. Accordingly, four rates of LFPR - defined as the percentage of total workers to total population - for different groups of population are furnished. The rates of LFPR derived based, respectively, on: a) principal status workers, b) principal + subsidiary status workers, c) current weekly status workers and current daily status workers, hence forth are denoted, respectively, as RLFPR1 RLFPR2 RLFPR3 and RLFPR4. Given the objectives, source of data and method of analysis, the rest of the paper is divided into three sections: section 2 analyses the impact of economic factors, Section 3 deals with the analysis of sociological factors and Section 4 concludes.

2 Analysis of the Impact of Economic Factors on LFPR of Women

The determinants of LFPR of women - for analytical convenience - are, broadly, grouped into two categories. Economic and sociological factors. Poverty, landlessness and instability in earnings of males constitute the group of economic factors. To begin with, the importance of these factors on LFPR of rural women is evaluated in this section.

a) Poverty and LFPR of Women

Two indices of poverty: Head count ratio and poverty gap ratio are widely used in the literature. Head count ratio - as the nomenclature suggests - is defined as the proportion of people below poverty line. Poverty

gap ratio is defined as the product of head count ratio and income gap ratio - where income gap ratio is defined as the average shortfall of income of the poor expressed as a proportion of the poverty line. It may be pointed out that, while the head count ratio is insensitive to the extent of misery suffered by the poor, the poverty gap ratio accounts for the extent of misery suffered by the poor. Thus, poverty gap ratio - a better index of poverty than the head count ratio - has been selected to represent poverty in this analysis.

The information on poverty and rates of LFPR of women are provided in Tables 1 and 2. In Table 1, the information on rates of LFPR of all women and poverty for the

entire population across states are furnished, while Table 2 provides the data on: rates of LFPR of scheduled caste women and poverty among 'scheduled caste' population. The numbers in these tables reveal that: a) poverty among 'schedule castes' is relatively higher, except in Assam, compared to poverty among the entire population in all states and b) rates of LFPR of 'scheduled caste' women are higher compared to the rates of LFPR of all women in the various states. To assess the importance of poverty in determining the LFPR of women, simple correlation co-efficients between the index of poverty for the relevant population and each one of rates of LFPR of all women and 'schedule caste' women are estimated.

TABLE 1 : Rates of LFPR of All Women

STATE	RLFPR1	RLFPR2	RLFPR3	RLFPR4	HCR	PGR
Andhra Pradesh	47.91	54.37	40.76	35.13	0.3312	0.0807
Assam	8.13	14.50	8.63	8.02	0.1946	0.0279
Bihar	18.92	28.97	17.31	15.76	0.4622	0.1193
Gujrat	37.35	46.68	36.04	28.32	0.2506	0.0514
Haryana	15.61	27.50	13.06	12.17	0.1403	0.0231
Karnataka	35.93	45.03	33.31	28.74	0.3321	0.0833
Kerala	19.34	35.00	17.95	13.77	0.2314	0.0457
Madhya Pradesh	43.94	50.87	37.86	35.23	0.4433	0.1188
Maharashtra	49.11	54.42	39.70	34.62	0.3607	0.0867
Orissa	25.97	33.43	22.24	19.76	0.4298	0.1161
Punjab	4.69	36.52	10.23	7.16	0.0845	0.0123
Rajasthan	39.68	54.56	43.04	40.59	0.3346	0.0892
Tamilnadu	42.23	51.42	36.26	28.87	0.3922	0.1093
Uttar Pradesh	17.26	30.10	19.09	15.88	0.4140	0.1053
West Bengal	10.34	22.16	10.41	8.60	0.3928	0.1108
India	28.73	39.30	26.27	22.90	0.3604	0.0908

Correlation co-efficients estimated between each one of the rates of LFPR: RLFPR1, RLFPR2, RLFPR3 and RLFPR4 for all women and the index of poverty for the entire population are, respectively, at 0.4295, 0.2629, 0.3877 and 0.4205, and none of them is statistically significant either at 5 per cent or at 10 per cent level. This result is due

to aggregation of women belonging to different castes and religions. Thus the relationship between poverty and LFPR of women is affected by factors other than poverty. To infer the significance of the relationship between poverty and LFPR of women, impact of other factors - sociological factors in particular - needs to be controlled. One way

TABLE 2 : Rates of LFPR of Schedule Caste Women

STATE	RLFPR1	RLFPR2	RLFPR3	RLFPR4	HCR	PGR
Andhra Pradesh	57.37	62.82	44.94	36.88	0.4363	0.1181
Assam	7.23	13.84	8.87	7.90	0.2049	0.0254
Bihar	28.65	41.73	24.06	20.53	0.6245	0.1846
Gujrat	37.15	48.13	36.30	27.90	0.3206	0.0585
Haryana	24.17	32.21	22.99	21.06	0.2544	0.0449
Karnataka	44.44	52.58	38.85	31.54	0.4711	0.1334
Kerala	32.95	43.88	28.82	20.42	0.3614	0.0799
Madhya Pradesh	50.49	55.64	42.45	38.68	0.5188	0.1472
Maharashtra	55.63	59.79	42.62	35.83	0.4808	0.1193
Orissa	26.89	38.45	25.38	21.70	0.5011	0.1354
Punjab	8.52	37.43	15.52	11.63	0.1773	0.0259
Rajasthan	38.90	54.04	41.61	37.94	0.3847	0.1004
Tamilnadu	51.28	59.57	41.79	30.38	0.5266	0.1689
Uttar Pradesh	23.60	37.61	23.06	20.03	0.5225	0.1454
West Bengal	13.18	27.54	12.83	10.27	0.4705	0.1233
India	32.65	44.29	28.99	24.16	0.4715	0.1277

of controlling for the influence of the other factors is achieved by homogenizing the population by disaggregating the data. 'Schedule Caste' - the deprived section of India's population which constitute the agricultural labour class - is, to a large extent, homogeneous. Thus correlation co-efficients estimated between the index of poverty among 'schedule castes' and LFPR of 'schedule caste' women are expected to bear the relationship better. Correlation co-efficients between each one of the rates of LFPR: RLFPR1, RLFPR2, RLFPR3 and RLFPR4, of 'schedule caste' women and the index of poverty among them, respectively, are at 0.5310, 0.5153, 0.3774 and 0.1929. The correlation co-efficients, while for RLFPR1 and RLFPR2 are statistically significant, are not statistically significant for RLFPR3 and RLFPR4. These results suggest that current daily and current weekly status LFPR of women is determined by specific factors such as health status of workers, climatic and weather conditions that affect the demand for, and supply of labour specific to the week or the day.

The influence of extreme observations, also, affect the observed relationship. From Table 1 and 2, it could be identified that in states such as Bihar, Orissa, Uttar Pradesh, and West Bengal while poverty among both the entire population and 'schedule caste' is high, LFPR of women: all and 'schedule caste' is low. For example these states are ranked respectively 10th, 8th, 11th and 13th by the value of the rate of LFPR - derived based on principal status workers - of all women, while the states are ranked 1st, 3rd, 4th and 5th when ordered by the value of head count ratio. Correlation co-efficients estimated, omitting West Bengal, between each of the : RLFPR1, RLFPR2, RLFPR3 and RLFPR4 for all women, and the index of poverty for the entire population, respectively, are at: 0.5477, 0.3850, 0.5094 and 0.5441. Three of these co-efficients are significant either at 5 per cent or at 10 per cent level. Similarly, correlation co-efficients estimated between the index of poverty for the 'Schedule castes' and each one of the RLFPR1, RLFPR2, RLFPR3 and RLFPR4 for 'Schedule caste' women are at: 0.5743,

0.5527, 0.5063 and 0.5036, and significant either at 5 per cent or at 10 per cent level. These results indicate that: a) poverty is an important determinant of LFPR of women b) controlling for the influence of other factors by disaggregating the data brings out the relationship better and c) the extreme observations alter significantly the results obtained. In general, in the statistical exercise, these extreme observations are either omitted or not identified, respectively, depending on whether the results do or do not support the 'a priori' expectation regarding the relationships being explored. Probing the cause for the behaviour of these extreme observations - as will be demonstrated later - can lead to: a) identification of the relevant variables being omitted and b) a clear understanding of the processes at work.

b) Landlessness and LFPR of Women

Land, as indicated earlier, is the major source of livelihood and symbol of social status in the rural area. For this reason landlessness - measured as a percentage of rural households landless to total rural households for the appropriate grouping of population - is expected to be positively related to LFPR of women of the respective group. To verify this proposition correlation co-efficients between the index of landlessness, respectively, among: the entire population and 'Schedule castes' and rates of LFPR of women: all and schedule caste, are estimated. The correlation co-efficients estimated between the index of landlessness for all and each one of: RLFPR1, RLFPR2, RLFPR3 and RLFPR4 of all women, respectively, are at: 0.5903, 0.5127, 0.5243 and 0.4513. The correlation co-efficients: a) 1st and 3rd and b) 2nd and 4th are significant, respectively, at 5 per cent and at 10 per cent levels. Similarly the correlation co-efficients between the index of landlessness among 'Schedule castes' and each of RLFPR1, RLFPR2, RLFPR3, and RLFPR4 of 'Schedule caste' women

are at: 0.5922, 0.5323, 0.5847 and 0.5125. The first three of the co-efficients, while are significant at 5 per cent level the 4th is significant at 10 per cent level. These results confirm the 'a priori' expectation. All the correlation co-efficients estimated for 'schedule caste' women are marginally higher than the respective correlation co-efficient for all women. These results too confirm the importance of controlling for the impact of other factors by disaggregating the data.

c) Instability in Earnings of Males and LFPR of Women

Instability in earnings of males acquire importance as a determinant of LFPR of women, as men are considered to be bread winners. In societies, where men are assigned the role of bread winners, adequacy or otherwise of male earnings and fluctuations in the earnings of males determine the labour market entry of women. In some straightforward sense, the importance of inadequacy of earnings of males on LFPR of women has been analysed by relating poverty and LFPR of women. Thus, the importance of instability in earnings of males in determining the involvement of women in the production process is assessed in this part of the paper. Instability in earnings of males is determined by fluctuations in : wage rate and availability of employment. Data on instability in wage rate or daily earnings are difficult to obtain. Thus, this analysis is restricted to instability in availability of employment for males in determining the LFPR of women. To this end two measures of instability in employment of males are derived by using RLFPR1, RLFPR3 and RLFPR4. These indices are constructed as ratios of: a) RLFPR1 to RLFPR3 and b) RLFPR1 to RLFPR4 of males, respectively, are denoted as ins1 and ins2. The relationship between these indices of instability and the rates of LFPR of women are expected to be positive.

Correlation co-efficients estimated between the indices of instability and rates of LFPR of women: all and 'schedule caste', are presented in Table 3. All the correlation co-efficients between the indices of instability in employment of males and the rates of LFPR of women both: all and 'Schedule caste' are positive as expected. However, the correlation co-efficients, except

the ones between Ins1 and the rates of LFPR of all women, are not statistically significant. Thus, the results are not strong enough to conclude that instability in employment of males is an important determinant of LFPR of women. In this regard, one may wish to modify or search for better indices of instability in employment and earnings of males.

TABLE 3 : Correlation Co-efficients Estimated Between Instability Indices of Male Employment and Rates of LFPR of Females

Rate of LFPR	All Women		Schedule Caste Women	
	Ins1	Ins2	Ins1	Ins2
LFPR1	0.6653**	0.2875	0.1721	0.2485
LFPR2	0.6766**	0.3217	0.2190	0.2905
LFPR3	0.6030**	0.2295	0.0904	0.1701
LFPR4	0.5521**	0.3510	0.0009	0.0098

Note : ** Indicates that the co-efficient is significant 5 per cent level

3 Analysis of the Impact of 'Sociological Factors' on LFPR of Women

Sociological factors - as indicated earlier - include caste, religion and educational attainment. Caste - which is an unique institution to India - plays a crucial role in determining the economic outcomes. Thus, in any analysis of the influence of sociological factors on economic outcomes 'caste' assumes prime importance. Consequently, the influence of caste in determining the rates of LFPR of women is probed in detail.

a) Caste and LFPR of Women

'Schedule Caste' and 'Schedule Tribe' population constitute the deprived section of India's population. They are ranked the lowest in social hierarchy. It is anticipated that the rates of LFPR of women belonging to these castes will be higher than the rates of LFPR of 'others' women. Thus to analyse the influence of caste, the data on rates of LFPR disaggregated by caste are analysed.

The rates of LFPR: RLPR1 and RLPR2, respectively, are provided in Table 4 for the three caste groups: 'schedule castes', 'schedule tribes' and 'others'. The numbers in Tables indicate that the rates of LFPR of both 'schedule caste' and 'schedule tribe' women are higher than the rates of LFPR of 'others' women in the respective states. This result confirms the 'a priori' expectation - the rates of LFPR of women belonging to the deprived section will be higher than that of the 'others' women.

A closer look at these numbers reveal that there exists a strong association between the rates of LFPR of women belonging to the deprived section and that of the 'others' women. To confirm this intuition correlation co-efficients between the rates of LFPR of the 'others' women and: a) the 'schedule caste' women and b) the 'schedule tribe' women are computed. The estimated correlation co-efficients: a) between RLPR1s of 'others' and 'schedule caste' women and b) between RLPR2s of 'others' and 'schedule

TABLE 4 : Rates of LFPR of Women by Caste

STATE	Schedule Caste		Schedule Tribe		Others	
	RLPR1	RLPR2	RLPR3	RLPR4	HCR	PGR
Andhra Pradesh	57.37	62.82	63.05	68.25	44.31	51.15
Assam	7.23	13.84	5.83	15.95	8.73	14.22
Bihar	28.65	41.73	48.30	60.34	13.00	22.10
Gujarat	37.15	48.13	45.94	52.85	34.89	44.68
Haryana	24.17	32.21	—	—	12.70	25.93
Karnataka	44.44	52.58	40.14	44.33	34.03	43.72
Kerala	32.95	43.88	23.83	38.13	17.45	33.79
Madhya Pradesh	50.49	55.64	51.61	60.07	37.23	43.62
Maharashtra	55.63	59.79	60.58	63.50	48.29	52.17
Orissa	26.89	38.45	43.69	52.87	18.23	23.78
Punjab	8.52	37.43	3.84	30.20	3.18	38.22
Rajasthan	38.90	54.04	61.58	71.82	35.20	51.01
Tamilnadu	51.28	59.57	55.90	65.30	39.27	48.86
Uttar Pradesh	23.60	37.61	17.45	24.39	15.44	28.03
West Bengal	13.18	27.54	35.35	44.65	6.38	17.41
India	32.65	44.29	47.50	55.59	25.09	35.75

'ule caste' women, respectively, at 0.96 and 0.92 are significant at 1 per cent level. However, correlation co-efficients estimated between: a) RLPR1s of 'others' and 'schedule tribe' women and b) RLPR2s of the 'others' and 'schedule tribe' women, respectively, at 0.04 and 0.50 are not significant at 5 per cent level. These results indicate that, while 'schedule castes' emulate the labour market participation of the 'others', the 'schedule tribes' do not follow the practices of the 'others'. However, a further examination of the data reveal that states such as Bihar, West Bengal and Orissa behave like outliers. The rates of labour force participation of the 'others' women and 'schedule caste' women are exceptionally lower in these states compared to that of the 'schedule tribe' women. The difference in the pattern, noticed, in rates of LFPR of women - as will be demonstrated later - is due to differences in caste-class relationship that obtain in these states vis-a-vis the caste-class relationship that obtains in the other states.

It has been indicated earlier that the 'schedule castes' and the 'schedule tribes' could be placed at the same end of the spectrum describing social hierarchy. This section of the population - deprived section - constitutes the agricultural labour class in the country. However, 'schedule tribes' are relatively more disadvantaged than the 'schedule castes' - the 'schedule tribes' are considered to be inferior to 'schedule castes' in the caste hierarchy. Consequently, the rates of LFPR of 'schedule tribe' women are expected to be higher than that of the 'schedule caste' women. To verify this proposition, the rates of LFPR of 'schedule caste' and 'schedule tribe' women are compared. Comparison of the rates of LFPR of 'schedule caste' and 'schedule tribe' women reveal that the 14 states - Haryana being excluded for there are no 'schedule tribe' household - could, broadly, be grouped into two categories: states where the rates of LFPR of 'schedule caste' women are: a) lower and b) higher than the rates of LFPR

of 'schedule tribe' women. States such as Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and West Bengal constitute the first group. The second group includes states such as Karnataka, Kerala, Punjab and Uttar Pradesh. Assam turns out to be an exception as RLFR1, while is lower, RLFR2 is higher for 'Schedule tribe' women compared to the respective rates of LFPR for 'schedule caste' women. The differences in the rates of LFPR are not high enough to merit the attention. However, it is worth noting that in Assam both: a) 'schedule castes' and 'schedule tribes' enjoy relatively better access to land compared to in most other states and b) the share of land owned by 'schedule tribes', at 11.64 per cent of the total land, exceed their share in total rural households, at 11.28 per cent. Access to land - relatively better for the deprived section in Assam, - is reflected in extremely low participation of both: 'schedule caste' and 'schedule tribe' women in the labour market.

In all states that constitute the second group - where the LFPR of 'schedule caste' women is higher than that of 'schedule tribe' women - percentage of 'schedule tribe' households to total rural households is much lower - varies from 0.19 per cent in Punjab to 4.80 per cent in Karnataka. The differences in rates of LFPR between 'schedule caste' and 'schedule tribe' women vary inversely with the share of 'schedule tribe' households in total rural households across states - the differences are the highest in Punjab and the lowest in Karnataka. These results suggest that in states where the 'schedule tribe' households are relatively few in number, the occupational structure is more homogeneous and differs from the ones that obtain in the other states. To be precise, in states where the 'schedule tribes' account for larger proportion of the total rural population, they may be both: cultivators and agricultural labourers. On the other hand, where the 'schedule tribes' are relatively few,

may depend on forest produce and hunting for their livelihood. This sort of reasoning requires the examination of the data on occupational structure of 'schedule tribes' across states. Unfortunately such data are not available at the state level.

The fact that in 9 out of 14 states, particularly in all states where both 'schedule castes' and 'schedule tribes' account for significant proportions of total rural households, the rates of LFPR of 'schedule caste' women are lower than that of 'schedule tribe' women suffice to conclude that caste hierarchy plays a crucial role in determining the extent of LFPR of women. However, the differences in rates of LFPR in states such as Bihar, Orissa, Rajasthan and West Bengal merit special attention. In these states the rates of LFPR of 'schedule caste' women are exceptionally lower compared to that of 'schedule tribe' women making it difficult to attribute the differences in LFPR to differences in caste status alone. The difference between RLFR1 of 'schedule caste' and 'schedule tribe' women expressed as a percentage of RLFR1 of 'schedule caste' women are at -68.59, -62.48, -58.30 and -168.21 per cent respectively in Bihar, Orissa, Rajasthan and West Bengal. Similarly, the difference between RLFR2 of 'schedule caste' and 'schedule tribe' women expressed as a percentage of the former, in the respective states are at -44.60, -37.50, -32.90 and -62.13 per cent. These results call for examining the data on other factors, particularly, the data on access to land.

In order to get a clear picture of access to land across states by 'schedule castes' and 'schedule tribes' an Index of differential access to land defined as:

$$\frac{\text{Share in total land owned}}{\text{Share in total rural households}} - 1 \times 100 \dots (1)$$

is estimated and the results are presented in Table 5. These numbers indicate that only in two states: Rajasthan and West Bengal,

TABLE 5 : Statistics on Land Distribution by Caste

STATE	Schedule Caste		Schedule Tribe		Population Share		Index of differential access to land	
	Land-less	Land-share	Land-less	Land-share	SC	ST	SC	ST
Andhra Pradesh	13.58	8.73	14.75	7.89	22.91	8.99	-61.89	-12.24
Assam	5.04	11.28	13.60	11.64	16.93	9.32	-33.37	24.89
Bihar	7.92	3.18	5.49	22.10	14.90	12.24	-78.66	80.56
Gujarat	23.87	3.22	25.57	10.44	11.74	19.58	-72.57	-46.68
Haryana								
Karnataka	14.51	8.90	26.67	2.81	17.60	4.80	-49.43	-41.46
Kerala	16.55	2.20	20.39	0.27	13.22	1.59	-83.36	-83.02
Madhya Pradesh	18.11	7.85	14.12	24.11	14.90	26.81	-47.32	-10.07
Maharashtra	26.39	3.45	28.84	8.94	8.45	12.84	-59.17	-30.37
Orissa	7.21	9.64	10.06	25.95	18.58	23.81	-48.12	8.99
Punjab	6.00	2.11	29.21	Neg	39.27	0.19	-94.63	—
Rajasthan	12.90	12.45	8.74	6.39	20.13	12.47	-38.15	-48.76
Tamilnadu	14.49	8.23	4.91	1.72	24.01	1.09	-65.72	57.80
Uttar Pradesh	7.18	10.47	7.42	1.56	24.71	1.58	-57.63	-1.27
West Bengal	19.10	20.59	53.34	3.98	29.53	7.96	-30.27	-50.00
India	12.61	17.12	7.89	10.10	19.71	9.74	-13.14	3.70

Note : Data for Haryana are not provided for there are no schedule tribe households.

the 'schedule castes' enjoy relatively better access to land compared to the 'schedule tribes'. In the other two states: Orissa and Bihar, the 'schedule tribes' own respectively one - fourth and one-fifth of the total land. Thus, in states such as West Bengal and Rajasthan, the 'schedule castes' - socially better off, who, also, enjoy better access to land withdraw their women from the labour force. Thus in these states economic factors, particularly access to land, reinforce social hierarchy and thus leads to exceptionally low participation of 'schedule caste' women compared to 'schedule tribe' women. In the other two states: Bihar and Orissa - land being the major source of livelihood and employment - significant proportion of employment opportunities are controlled by the 'schedule tribes' - socially worst off caste. Thus in these states, the 'schedule castes' - better off in the social hierarchy than the 'schedule tribes'

- are not willing to send their women for work under 'schedule tribe' land owners. These results establish, clearly, that the caste-class interaction plays crucial role in determining the extent of involvement of women belonging to different castes in the production process. These differences in caste-class relationship across states affect the relationship between LFPR of women and other factors. In this connection, it may be recalled that states such as Bihar, Orissa, Uttar Pradesh and West Bengal were identified as outliers in the analysis on poverty and LFPR of women. In these states, while poverty is very high, the LFPR of women is relatively low. The contradiction in the relationship between poverty and LFPR of women is, clearly, the result of the difference in caste-class relationship that obtains in these states compared to that obtains in the other states. In general, the 'schedule castes' and 'sched-

ule tribes' - deprived section of India's population - constitute the agricultural labour class, but in states such as Orissa, Bihar, and West Bengal either the 'schedule castes' or the 'schedule tribes' do not enter the agricultural labour class. Thus the general expectation: regarding caste-class relationship, is violated in these states. These results while establishing the importance of: caste and the caste-class interaction as determinants of LFPR of women, also establish the importance of disaggregated analysis of data.

b) Religion and LFPR of Women

Religion, as indicated earlier, is an important sociological factor that determines the extent of involvement of women in the production process. Socialisation of women is viewed differently by different religions. The degree of restriction imposed on the socialisation of women by different religions, determines the extent of LFPR of women. Islam, generally, believed to be the most

conservative religion, restricts the socialisation of women. Thus, the rates of LFPR of Muslim women are expected to be lower than the rates of LFPR of women belonging to other religions. To verify this hypothesis, the rates of LFPR of women disaggregated by religions, provided in Tables 6 and 7, are analysed. A quick glance at the numbers reveal that in: 12 out of 14 states and 10 out of 12 states, the RLPR1 - is lower for Muslim women compared to, both: Hindu and Christian women. Similarly, RLPR2 for Muslim women is lower in 13 out of 14 and 11 out of 12 states, compared to that of: Hindu and Christian women. The RLPR1 and RLPR2 of Sikh women, respectively, is lower in 4 and 5 out of 9 states compared with the respective rates for Muslim women. It is interesting to note that in Punjab - the home land of Sikhs - the LFPR of Sikh women are lower compared to that of Muslim women. Similarly, in all states - where Jains are found - the rates of LFPR of Jain women are lower than the rates of LFPR of Chris-

TABLE 6 : RLPR1 by Religion

STATE	Hindu	Islam	Christian	Sikh	Jain	Buddh	Others
Andhra Pradesh	48.31	37.60	49.80	52.20	0.00	60.00	54.27
Assam	9.99	2.04	13.07	—	—	—	11.85
Bihar	19.60	12.02	47.51	—	—	—	18.24
Gujrat	38.04	23.47	46.91	43.22	21.98	100.00	—
Haryana	16.07	18.83	—	7.67	—	—	—
Karnataka	36.83	28.72	19.53	—	23.88	50.00	25.59
Kerala	23.35	11.64	15.77	—	—	—	6.16
Madhya Pradesh	44.31	30.14	41.96	46.41	15.57	—	32.60
Maharashtra	49.39	39.01	35.97	31.59	23.58	56.27	51.08
Orissa	26.34	1.84	27.45	50.00	—	—	4.94
Punjab	5.93	6.05	13.07	3.99	—	—	4.23
Rajasthan	40.62	29.11	—	17.95	24.80	—	56.85
Tamilnadu	43.90	16.81	34.11	20.00	—	—	42.39
Uttar Pradesh	NA	NA	NA	NA	NA	NA	NA
West Bengal	11.94	4.50	26.80	—	—	—	—
India	30.77	13.40	28.54	5.50	21.33	54.11	29.36

TABLE 7 : RLPR2 by Religion

STATE	Hindu	Islam	Christian	Sikh	Jain	Buddh	Others
Andhra Pradesh	54.88	41.68	56.31	52.20	0.00	80.00	60.18
Assam	16.85	6.85	20.94	—	—	—	16.35
Bihar	29.89	20.80	56.21	—	—	—	26.35
Gujrat	47.26	36.35	55.92	43.22	21.98	100.00	15.50
Haryana	27.73	38.48	0.00	19.08	—	—	12.16
Karnataka	46.43	33.76	23.04	—	23.88	50.00	32.47
Kerala	38.44	21.08	38.67	—	—	—	12.04
Madhya Pradesh	51.23	36.24	54.95	46.41	22.20	—	32.60
Maharashtra	54.83	42.94	50.52	34.50	34.07	59.71	58.74
Orissa	33.97	3.51	29.24	100.00	—	—	13.61
Punjab	36.78	35.08	52.35	31.34	—	—	25.21
Rajasthan	55.03	55.42	—	27.62	27.24	—	67.65
Tamilnadu	53.28	24.01	41.96	20.00	—	—	68.15
Uttar Pradesh	NA	NA	NA	NA	NA	NA	NA
West Bengal	23.87	16.12	34.36	—	—	—	16.48
India	40.91	23.97	42.54	33.74	26.53	57.57	38.98

Note: 1 - implies that the Religious group is absent

2 NA indicates that data are not available

tian, Hindu and Muslim women. Thus these results indicate: a) muslim women, as expected, experience, relatively, more exclusion compared to Hindu and Christian women, b) exclusion of Sikh women from production process is higher compared to the degree of exclusion experienced by Muslim women in Punjab and c) the degree of exclusion experienced by the Jain women is the highest compared to women belonging to all other major religions in the country. It is interesting to note that the LFPR of Sikh women is much higher in all states - RLPR1 at 17.95 in Rajasthan, the lowest that obtains in the other states where Sikhs are found, is much higher than the same at 3.99 and 7.67, respectively, in Punjab and Haryana. Sikhs in all these states appear to be migrants. Thus, these results suggest that migration influences, a great deal, the social attitude towards female socialisation and hence the LFPR of women. It may, also, be that the survival instinct which may

be stronger among migrants compared to non-migrants changes the outlook towards social values and leads to high participation of women in the production process. Thus, these results establish, clearly, on the one hand, the influence of religion in determining the labour force participation of women and on the other importance of disaggregated analysis of data by indicating the role of migration - an aspect that needs to be explored further - in determining the extent of involvement of women in the production process.

c) Education and LFPR of Women

Education of women - an index of development in social sector - reflects the society's attitude towards female socialisation. It is expected that education will have positive impact on the rates of LFPR of women. To test this hypothesis, data disaggregated by level of educational attainment for females,

who are above the age of 15, provided Table 8, are examined. Examination of the numbers in Table 8, indicate that relationship between rates of LFPR of women and levels of educational attainment is not linear. Con-

trary to the 'a priori' expectation, the rates of LFPR of women declines, steadily for all educational levels up to secondary education, but increases for educational level Graduation and above. For comparative

TABLE 8 : Education Specific RLFP1 and RLFP2 of LFPR of Females

(Age 15+)

STATE	Illiterate	Primary	Middle	Secondary	Graduation and Above
Andhra Pradesh	64.27 (72.26)	35.19 (43.93)	20.43 (30.44)	15.17 (21.55)	18.73 (18.73)
Assam	13.50 (22.74)	8.10 (18.73)	3.45 (7.72)	15.54 (20.54)	32.73 (32.73)
Bihar	26.77 (40.64)	12.18 (19.63)	8.37 (13.36)	13.81 (16.35)	34.54 (34.54)
Gujarat	53.66 (64.94)	43.85 (58.25)	26.94 (39.49)	23.06 (33.67)	40.11 (40.11)
Haryana	21.75 (37.15)	16.63 (35.06)	19.58 (41.38)	2.49 (14.00)	16.80 (16.80)
Karnataka	48.97 (60.48)	39.84 (52.36)	23.24 (40.70)	13.92 (20.86)	8.51 (8.51)
Kerala	33.81 (48.42)	28.11 (52.04)	13.56 (37.59)	16.55 (31.25)	33.59 (50.62)
Madhya Pradesh	61.31 (70.23)	39.41 (46.98)	23.88 (28.81)	18.43 (28.38)	22.00 (22.00)
Maharashtra	68.76 (74.57)	56.60 (65.71)	35.79 (43.81)	23.36 (26.33)	22.37 (35.77)
Orissa	37.84 (48.47)	13.71 (20.05)	6.53 (9.35)	13.52 (13.52)	36.63 (36.63)
Punjab	6.47 (50.58)	4.06 (38.71)	1.52 (31.91)	10.37 (36.58)	8.50 (34.61)
Rajasthan	50.21 (68.98)	27.25 (44.54)	27.83 (43.71)	9.94 (17.54)	32.78 (32.73)
Tamilnadu	57.45 (67.92)	42.66 (57.27)	21.44 (34.10)	26.06 (37.68)	27.55 (27.55)
Uttar Pradesh	24.29 (41.48)	14.86 (27.32)	13.08 (25.56)	11.27 (25.61)	4.12 (8.39)
West Bengal	17.65 (34.15)	4.98 (20.87)	4.15 (13.70)	4.64 (14.50)	17.25 (23.90)
India	40.73 (54.29)	27.65 (41.79)	15.79 (29.32)	15.80 (26.93)	22.00 (29.46)

Note : Figures in Parantheses are RLFP2.

purpose the data on LFPR of males, above the age of 15, provided in Table 9, are examined. The rates of LFPR of males too display similar pattern. The striking difference in the patterns that obtain for males

and females is that the decline across levels of educational attainment up to secondary education is much sharper for females compared to that of males. Similarly, the increase in the rates of LFPR between fe-

TABLE 9 : Education Specific RLFP1 and RLFP2 of LFPR of Males

(Age 15+)

STATE	Illiterate	Primary	Middle	Secondary	Graduation and Above
Andhra Pradesh	92.42 (93.21)	92.12 (93.70)	73.42 (78.25)	67.41 (76.38)	71.46 (90.09)
Assam	89.43 (90.12)	88.90 (89.98)	59.56 (63.37)	50.24 (58.28)	83.83 (89.61)
Bihar	91.80 (92.94)	86.90 (88.40)	72.30 (76.88)	60.48 (68.28)	69.79 (79.61)
Gujarat	90.62 (91.01)	90.06 (90.86)	75.82 (80.36)	67.92 (75.87)	84.80 (90.47)
Haryana	84.26 (85.03)	84.40 (86.39)	69.65 (73.36)	64.24 (67.98)	81.93 (85.77)
Karnataka	90.08 (90.80)	90.50 (91.19)	78.78 (80.89)	75.54 (79.87)	76.96 (82.30)
Kerala	73.35 (78.21)	83.40 (88.29)	62.97 (68.63)	46.97 (52.77)	79.25 (83.73)
Madhya Pradesh	92.94 (93.29)	89.50 (90.59)	70.96 (75.25)	83.70 (87.41)	78.32 (86.14)
Maharashtra	90.31 (91.02)	90.90 (91.59)	72.67 (76.44)	74.69 (78.97)	84.62 (89.43)
Orissa	91.12 (91.98)	92.81 (93.54)	68.64 (71.35)	63.39 (66.58)	75.46 (75.46)
Punjab	86.89 (88.04)	86.63 (89.04)	73.28 (78.53)	72.12 (79.76)	80.61 (84.20)
Rajasthan	91.83 (92.34)	86.03 (88.03)	66.08 (72.73)	70.51 (78.88)	79.76 (83.01)
Tamilnadu	89.64 (90.67)	91.77 (92.52)	72.24 (77.70)	70.13 (74.26)	69.57 (74.26)
Uttar Pradesh	91.87 (92.66)	87.52 (89.98)	68.42 (77.17)	68.48 (78.35)	76.69 (85.84)
West Bengal	91.83 (92.63)	84.72 (86.77)	69.05 (74.59)	63.98 (74.40)	77.58 (87.76)
India	91.02 (91.82)	88.47 (90.09)	70.21 (75.26)	66.48 (73.25)	77.43 (83.93)

Note: Figures in Parantheses are RLFP2

males who have completed secondary education and those who have completed graduation and above, too is sharper compared to the respective rates for males, in most states. It appears that the decline in LFPR of males across levels of educational attainment while is a direct consequence of higher levels of educated unemployment, the decline, sharper, for females reflects the direct consequence of prosperity. At the educational level above graduation - the change in rates of LFPR between those who have attained secondary education and those who have completed graduation and above - the relationship for females reflect the impact of the change in society's attitude towards female socialisation. Note, also, that the RLFPRI and RLFPRII for females, who have completed graduation and above, are the same in all states, except in Karnataka and Kerala, while for males these rates differ in all states. These results seem to suggest that degree of marginalisation suffered by highly qualified males is greater than for females. It may be as the females can wait and get into stable employment, while the males can not. The general level of prosperity of households where highly qualified females are found may be higher than that of the other households - reflection of intra-family allocation of resources. Thus, the disaggregated analysis of data while establishing the importance of education in determining the extent of LFPR of women, bears evidence to the importance of disaggregated analysis of data.

4 Conclusion

The objective of the paper is two fold: a) to analyse the importance of the various factors in determining the LFPR of women and b) to establish the importance of disaggregated analysis of data. The results bear evidence to the influence of various determinants of LFPR of women. Poverty, landlessness and access to land - share of land owned by households belonging to different castes - are the important economic factors that determine the extent of labour market participation of women. The variation in the LFPR of women across states for the two castes: 'schedule caste' and 'schedule tribe' is due, largely, to the difference in the caste-class relationship that obtains in the different states. The analysis of sociological factors prove that caste, religion and educational attainment play crucial role in determining the extent of involvement of women in the production process. The relationships between the various determinants and the LFPR of women are explored by resorting to 'simple' analysis of disaggregated data. The analysis offers better insights into the relationships between LFPR of women and the various determinants. The complex interaction among the various factors and the consequent impact on LFPR of women is well brought out by the analysis. Thus this paper proves that 'simple' analysis of data - disaggregated to the finest possible extent - is sufficiently revealing.

Notes

- 1 see, also, Standing (1989).
- 2 The studies include Gulati (1975), Dholakia and Dholakia (1978), Nagaraj (1989) and Sundaram (1989).
- 3 The method of estimating the poverty indices is provided in an 'appendix' in Subramanian (1990).
- 4 'Others' include all castes other than 'schedule caste' and 'schedule tribe'.

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Methodological Issues in the Study of Gender and Caste

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Introduction

THE concern in this paper will be to describe the boundaries — methodological and political — of gender conscious analyses of caste. This attempt lays no claim to being exhaustive, but only to highlight the points at which and specific ways in which an analysis of this kind will intersect with other institutional structures and other structures of dominance and hegemony.

Gender is a structural factor in history: it determines the agendas that systems of dominance have for both women and men through history. It intersects with caste, class and state formations to produce varied articulations of patriarchy. Different articulations of patriarchy often overlap and coexist in the same context -- in kinship systems; within and between castes and classes -- at the same point in time. The state plays a crucial role in the constitution of gender which then becomes a component of a larger political strategy of the particular state. This construction of gender is basic to identity formation in the wider society. It undergirds notions of masculinity, class, caste, race and femininity.

Feminist sociology therefore needs to focus on the specific productions of patriarchies -- regional and well as chronological -- before any attempt is made to develop overarching theoretical frameworks. Patriarchies oppress women on the one hand and implicate them in oppressive practices on the other. It becomes possible to reckon with this fact at an analytical level the moment we recognise that the concern of feminist research is not necessarily the study of women-as-victims,

but a concern with systematic oppression of people whose labour and bodies are expropriated, in which gender is a basic determinant of systems of dominance. This would by definition involve a "violation" of established disciplinary boundaries and of traditional methods of sociological inquiry.

The study of gender and caste is only possible in an interdisciplinary context. To understand how caste impacts on women's lives one needs to look not merely at easily identifiable and easily isolable characteristics of caste, but to map the interlinkages between caste and what have hitherto been thought of as "political", "religious" or "cultural" aspects or the state to see how these link up to surface as an expression of caste identity.

Although deeply problematic, we can perhaps say that it was upto some point in the past, possible to engage in a purely "anthropological" study of caste -- one that was neutralised and de-politicised by the fact of its academic analysis. The neutrality was possible primarily because the anthropologist throughout the early history of the discipline in the Indian Subcontinent was someone who entered an "alien, native" context in order to study it without a vested interest in the culture being studied.

"Native" anthropologists in the period immediately after colonialism inherited this legacy of neutrality without the realisation that questions of nationalism and nativity invested an interest in them that would give the same claim of neutrality a radically different meaning -- one that read neutrality as meaning a complicity in the perpetuation of a *status quo*.

Even with the "outsider" anthropologist, the claim to neutrality came in for serious criticism because of the total blindness of ways in which gender intersected with other differences to produce inequalities along a range of axes. This was added to the blindness to the ways in which colonialism intersected with the anthropologist's identity and native cultures to produce peculiar, rarefied interpretations of Indian culture and caste society that served to rationalise inequality within native society on the one hand and colonialism on the other.

Today, with the aftermath of both Mandal and Babri Masjid bloodying our ungendered lenses, and the constant and bitter struggles for the recognition of women's rights as human rights questioning our basic assumptions of gender neutrality, we are at a point when we need to rewrite history and analysis in ways that foreground the politics of interpretation and question assumptions of neutrality.

What we need to work at are a series of systemic models, which, by allowing us to understand apparent inconsistencies, provide the analytic tools necessary for overcoming our own cultural bias towards consistency¹. Gender and caste in this view cease to be neutral, harmonious and internally consistent areas but get problematised and spill over to areas of religion, the state, family and violence and modes of social protest.

This paper attempts to underscore the need to look at diverse sources -- oral history, academic scholarship, caste violence, the repressive state and popular struggles -- to demonstrate the full implications of a gendered caste analysis.

Problems in Existing Scholarship: Towards a Feminist Critique of Caste

This part of the essay will focus on issues that arise in the scholarship on caste, specifically issues related to questions of origins

and kinship. Further, there is need to interweave scholarship with contemporary social practice in a manner that takes account of the violent and hegemonic expressions of caste identity in contemporary India².

The "Origin" Question

Theories of the origin of caste abound. At the outset, we encounter the problem of definition -- of encompassing a complex and pervasive practice within a formula or framework which draws the Weberian ideal type from an extremely tangled social practice. The classic problematic in the definition of caste has been the varna-jati problematic. Far more than its capacity to explain social reality, this dichotomy has provided the classic diversion from real issues of power that are far more central to caste, whether we look at it in terms of contemporary social practice or historical origins.

We are confronted with an apparent paradox when we have to explain the resilience of the caste system. There appears to be a certain continuity between, say, Megasthenes' account of north India two thousand years ago, the Abbe Dubois' account of caste in nineteenth century India, and our experience of the institution in contemporary India. How do we understand and explain this continuity? This exercise would be largely speculative and would force us to negotiate our argument dangerously close to the very essentialising notions of the institution that we are trying to critique.

The caste system, as it emerges from existing studies is essentialist and ahistorical. There is a constant leap across historical periods that in no way disrupts the continuity of the argument/analysis. There are for instance, theories that explain caste structures in terms of racial origin, there are others that explain it in terms of its 'essence' and yet others that relate its origins to the introduction of occupational specialization. These definitions either consist of an inventory of characteristics and practices [true of much

of colonial scholarship on the subject] that are important because of their ethnographic detail or a purely academic debate over, and formulation of concepts that do not address the issues I am attempting to raise and hence do not substantively alter my argument³.

This kind of leap, apart from posing serious methodological problems and questions of validity, at a more immediate level poses a problem even for the understanding of power, authority and dominance within that very framework. These two problems are not separate--they only occur in progression⁴.

A more valid exercise would be to study historically, what society preceded and developed into a society organised on principles of caste, and what exactly were these principles as they come through to us from archaeological and archival sources, sources of popular culture, etc⁵; it might also be useful to look for the circumstances of transformation from pre-caste to caste societies -- an exercise which will be based on a recognition that we are not looking for any kind of homogeneity across regions and polities that would facilitate the construction of ideal types, but are instead looking for the various historically and region-specific occurrences of this transformation in different polities.

The importance of historical analysis cannot be understated. Given that change is inherent in social action, the reproduction of social systems requires no less explanation than does their transformation⁶.

Within the realm of the creation of meaning and the creation of knowledge, the genealogy of the sociological debate on varna and jati can be traced to Brahminical frameworks mediated by world views of scholars in colonial India -- Indologists, Orientalists -- largely of Western origin.

According to Bogle, "...on more than one point [the brahmanic theory of caste]

masks and falsifies the reality more than it records it. In the particular matter of the number of castes, the sacred codes, immediately after having affirmed that there are only four, implicitly recognise a considerable number"⁷.

He goes on to say that although modern scholars would like to map a relationship between the four varnas and castes as they are found today, this effort by itself does not in any way help us understand caste today. "It would be useless to look at castes of the present as the descendants of the traditional castes"⁸. That the system in contemporary India derives its corpus and codes from a textual tradition [in addition to customary codes] is important to recognise.

The Vedas, for instance, encompass and incorporate the popular belief system, although the popular system is probably prior to and distinct from the vedic framework. With this in mind, Klass suggests [following Basham's construction] that "the indigenous peoples of ancient India participated in a socio-economic structure that was different from that of the Incursive Indo-Europeans. That indigenous structure, furthermore, never died -- although we lose sight of it for a while. The available literature describes only the socio-economic structure of the Vedic peoples, ignoring everything else, but the older system remained in effect... quietly practiced by the humbler peoples' -- changing and developing over time and in response to new circumstances. Eventually, it reappears to overlay the system described in the Vedas"⁹.

While the contribution of some of these scholars has been without doubt significant, the frameworks within which the institution of caste was beginning to be understood and interpreted by scholars on the one hand and administrators on the other tended more often than not to rationalise the system [while condemning it unequivocally] than challenge it.

The entire exercise of identifying and naming oppressive social practices in India provided the necessary justification for colonial rule. The specific struggles to change specific practices within the system, like untouchability, enforced widowhood, child marriage etc., could comfortably be accounted for in this epistemological framework. In order to free herself from colonial rule therefore, India had to first rid herself of these evils and return to the pure and pristine state of the vedic period.

Following the line of this argument further, we would need to ask further questions of the deeply problematic interpretation of the vedic period, especially with regard to what implications it bears on our understanding of dalit history and experience in a fractured society and further still at base on the historical experience of women in a period that was unqualifiedly characterised as a liberated period¹⁰.

In the Marxist tradition caste is viewed from one of two angles: the first looks at it as a superstructure that reflects the basic structure of material, i.e. class relations. The second approach sees caste as the "Indian form of material relations at the base"¹¹. Attempts to explain caste within the Marxist framework therefore inevitably fall into either the trap of functionalism, or tend to become extremely reductionist. Instead, Chatterjee suggests that "an identification of the contradictory essence of popular consciousness is likely to give us better answers regarding the possibilities, forms and limits of capitalist insertion into the social institutions and practices of our people", since "it is in consciousness ... that people make sense of the world they live in; it is in consciousness again that they make their judgements on how to change it"¹².

There is however, yet another very significant political statement that Chatterjee makes, the consciousness of which is even more important for the Indian feminist researcher. Speaking of Dumont, he says, by

Dumont's own admission, the object of his study, *Homo Hierarchicus* "is to 'understand' the caste system, not to criticize it"¹³. He goes on to say that although "many Indian anthropologists, in the mistaken belief that this is the only proper scientific attitude to culture, have presumed to share the same observational position with their European teachers", located as we are, within the system of castes, "we cannot, unfortunately, afford this anthropologist's luxury"¹⁴.

Any analysis of caste by Indians therefore is by definition political, and either consciously chooses, or unconsciously identifies with one of two positions: supporting the status quo by proposing functionalist 'explanations' of caste, or developing a critique of Indian traditions and their inherent power structures.

It is in the latter project that Chatterjee envisages a role for subaltern consciousnesses. Popular beliefs and practices, he says, contain an implicit critique of dominant ideologies, and themselves "draw upon the ideological resources of given cultural traditions, selecting, transforming and developing them to cope with new conditions of subordination". However, since these beliefs are also limited by the same conditions, developing a critique of Indian tradition that is immanent, must involve and be based on an explication and unification of these fragmented oppositions, so that our critique is not merely one of Indian tradition, but also a critique of bourgeois equality, which is really the bedrock of European scholarship¹⁵.

The Kinship Question

A non-feminist critique of Indian tradition would lead to further methodological limitations. Especially in the study of caste, every extant study has talked of marriage networks (endogamy, exogamy) being crucial to the maintenance of the system with men regulating the system through the exchange of, or control over, women.

The customary right of male family members to exchange female members in marriage, according to Lerner, antedated the development of the patriarchal family, and created the conditions for the development of the family¹⁶. This customary right acquired a further economic significance with the development of private property and in India, caste stratification.

The primary consideration in the cementing of ties through marriage was [and indeed still is] the maximising of family fortunes. Women play a crucial economic role not only by providing free domestic labour, but also through their reproductive services. Lerner argues that it was the sexual and reproductive services of women that were relied under patriarchy, not women themselves¹⁷.

Rejecting the theory of racial origin and the invasion by Aryans, Klass draws a distinction -- an important one -- between the justificatory and explanatory shell that Vedic religion provides for its believers and the genealogy of the content of the socio-economic system that we experience today. He conceptualises caste society as comprising of a galaxy of equalitarian endogamous units, which he calls marriage circles, each of which in turn consists of equalitarian exogamous segments, or sub-units, or clans.

Marriage circles are fundamental units into which every member of the society is born. They are the "corporate" groups within which every member must marry. Social relations (eg. commensality) are normally concentrated within this group and the group formulates codes of behaviour and conduct and devises sanctions to enforce conformity. A hierarchical ranking of marriage circles results from a differential access to, and control over, resources.

A greater control over resources can only be maintained through endogamy and the closing of boundaries of the group. Further, enforcement of strictures and sanctions would be impossible if boundaries are

not clearly demarcated. Endogamy, therefore, far from being an end in itself, is in caste society, a mechanism for effective control. Its *raison d'être* is not to ensure 'purity of descent', but to maintain boundaries that would facilitate control.

Territoriality and kinship are two organising principles of the marriage circle. Viewed from this perspective, it is immediately possible to begin looking at the ways in which different specific societies draw up their rules and the local factors -- historical, economic, cultural -- that influence the formulation of these rules. For, if we go by Klass' formulation, in principle every marriage circle has its own independent leadership, and each sets up and enforces its own rules and regulations.

Although in his ideal formulation¹⁸ Klass says that absolute equality characterises relations within a marriage circle, clearly this ideal formulation is not grounded on the material reality of caste. Had it been grounded in the reality of caste, factors of wealth, political power, education, occupational status and so forth would be seen to operate quite unambiguously *within*, as well as between castes to produce internal inequalities of status¹⁹.

I would like to suggest that these internal inequalities are determined by a gendered power and control that is patriarchal, that determines the relationships between women and men of the same caste, women and men of different castes, men of different castes and adults and children.

Patriarchal modes of organisation determine the specific form of endogamy that would perpetuate both caste and gender hegemony. One could possibly begin looking for explanations of hypergamy/hypogamy here.

While most social scientists will agree with most of Klass' formulation, the difference between them is important and very basic: anthropologists *define* caste in terms

of an "essence" that underlies the system -- purity-pollution for Dumont, code-substance for Inden and Nicholas²⁰ and so on -- whereas for Klass, caste is simply the concrete system of inter-related and co-existing marriage-circles.

This is a "system" not in a functionalist sense, but because the entire society is composed of such groups so that expulsion from one means expulsion from the society... The ideological justification or "framework" is a separate and ultimately secondary factor for Klass²¹. It serves primarily to legitimise control over, and appropriation of lower castes.

Caste, according to Bougle is a matter of food and a matter of marriage²². Restrictions on food and marriage serve as effective barriers for free social intercourse and mark boundaries in very distinct fashion. Conformity to the proscription on commensality is ensured through the elaborate ideology of the pure and the impure. While physical contact between men of different castes *might* be tolerated, sharing food with other castes would undoubtedly lead to "contamination." Where there is a direct correlation between status and control over resources, the higher in the hierarchy a particular caste is, the more rigid are its rules of commensality and endogamy and the more severe are the sanctions it imposes.

In practice, the taboo on food and water is subject to many gradations -- it is far from absolute. How then, would we accommodate these gradations within our explanatory framework? There are variations between castes as well as regional variations. In northern India, for instance, men from higher castes can take water from a member of clean Sudra castes like the Barhai (carpenter), Nai (barber), Bhabunja (grainparchers) etc. This situation would be inconceivable in south and west India²³.

Restrictions governing eating are far more severe. The cooking is very important and

maintenance of purity during cooking is crucial to the purity of the caste. A stranger's shadow or the mere glance of a low caste man falling on the cooking pot are enough to contaminate its contents. Sharing of food is restricted to members of the endogamous marriage circle and the exogamous sub units -- the clan.

The preparation and consumption of food is subject to various rules: there are rules for dining within the family and rules for dining without. As regards consumption of food, it is a "technical operation" which has to be carried out only in the company of one's equals; among the Brahmans, the eater must be pure and he must be sheltered from any impure contact - any low caste man (sometimes even his shadow), or an animal, or even an impure family member would make food unfit for consumption²⁴. Generally speaking these rules are far more strict for Brahmans than for non-Brahmans.

To go back to Bougle, there are linkages between commensality and marriage. Let us look at how commensality is linked to kinship using an illustration by Dumont:

"In a hypergamous environment... a father gives his daughter in marriage and simultaneously gives material goods to a family of higher status. In one observed case, this is fully elaborated and food plays a two-fold symbolic role. On the one hand, in conformity with the pattern of the gift, the bride's father makes it a point of honour not to receive anything in exchange, other than the reflected glory of his son-in-law's family, which will be of higher status than his own. It is said that the bride's father (or eldest brother) should not accept food, nor even water, from the bridegroom's family after the marriage. Food is here a minimal material gift and its refusal is symbolic. It is a unilateral refusal, for the young husband eats freely at his father-in-law's when he stays there. But here we must go back to the marriage ceremony, where we shall find a detail which is very widespread in the region,

even outside hypergamous marriage. The bride's family, offers the bridegroom a morning collation, and the tradition is that the bridegroom does not accept until he has been entreated at length. Here the bridegroom's superior rank betrays itself: to agree to eat food with somewhat inferior people, the bridegroom claims a present... Commensality between affines therefore is not immediately established and remains incomplete²⁵.

More importantly this instance demonstrates for us that while commensality between castes is mediated by caste rank [and implicit in this account is the fact that commensality between castes is essentially a relationship between men], commensality within a caste, especially between affines, is mediated by gender. To extend the argument, gender on the one hand is a determinant of affinal rank, and mediates inter-family relationships within the kin group, while on the other hand, it mediates relationships between men of different castes that are bound together by commensality.

In an extremely useful critique of the anthropological preoccupation with kinship, Redclift argues that while it provides us with a wealth of empirical evidence on the mode of organisation of sexual relationships, the anthropology of kinship fails to address the relevance or problematic nature of sexual divisions or the constructions of gendered subjects through relations of reproduction²⁶. "Kinship," she asserts, "is predicated on difference, and difference is the problematic of feminism"²⁷. Sacks, in an attempt to surmount the problem of explaining kinship structures provides a historical materialist reading of gender relations in four African societies²⁸. Although production processes are organized in a wide variety of forms, she sees a certain uniformity underlying this diversity -- a uniformity that both characterises and delimits a mode.

In this scheme, gender is not coextensive with sex. However, the distinction between

sex and gender itself is deeply problematic. Just as any model for understanding social reality is necessarily culture-specific, so also, models of biological differences are products of a particular cultural mode of thinking about interpersonal relations. The positions that individual men and women occupy in the production system are contingent on their position in the kinship structure.

Gender distinctions in caste society therefore, while relying heavily on analogies between nature and biological differences, are crucial to the maintenance of a cultural order, and must analytically be reckoned with. Rather than assume that the fundamental units of gender and kinship in every society are defined by the difference between males and females in sexual reproduction, we need to ask what are the socially meaningful categories people employ and encounter in specific social contexts and what symbols and meanings underlie them. These symbols and meanings are inherently evaluative. They are not static, but change as constantly as the specific contexts and actors change. We would therefore need to ask what are the cultural meanings people realise through their practice of social relations.

Kinship therefore, in this view, far from being merely a relation of reproduction, constitutes the political economy and mediates relations to the productive system²⁹. It is a site which expresses not just the ideology of stratification that a particular culture subscribes to, but also the manner and terms in which different groups in a culture are tied together.

By Way of Example

If one were to examine the many different ways in which caste society was organised in India, in South India specifically, kinship, through the compiling of genealogies and spatial spread, might tell us not just how different groups relate to each other, but also how in-marrying insular groups in villages

that are largely undifferentiated on the basis of caste sustain themselves.

We would also then have to look for ways in which difference is defined in a situation which is homogenous on the basis of caste and related through immediately identifiable kinship ties. I have in mind here the case of a village in Tamilnadu, near Tirunelveli. This village could broadly be classified as a single caste village, the caste itself was a migrant caste, Telugus in Tamilnadu.

In an interview with Nayakkars in this area, they narrated their own history as follows:

During the reign of Sri Krishnadevarayar, the Nayakkars came to the south as representatives of the state. Tirumalai Nayakkar and Tanjai Nayakkar came and constituted palayampattis. Our ancestors settled in these palayampattis as chiefs. All these palayampattis during British rule were abolished and the zamindars came into existence. By then our ancestors had settled here. The karisal land was all thorn and shrubs. They cleared this land and became pattadars and landowners of land that was good and water retentive. They provided work for other labourers and cultivators who belonged to Tamil Nadu. When our ancestors came to Tamil Nadu, they adopted the manners and customs of the Tamil people. Although we were representatives of Sri Krishnadevaraya here to establish a Hindu state in South India, were indistinguishable from the Tamil People except for our vamsas, which were Andhra vamsas.

Caste identity, from this instance then is constituted not just by the caste position or its relation to the dominant castes but also in relation to the specific circumstances of migration, its relation to other religious groups, to groups positioned differently in relation to the land, and also to the crop cultivated. Finally, this entire belt where cotton is cultivated is called the Karisal

Kadu, which is inhabited primarily by Telugu speaking people, with distinctive cultural practices and a recognition of cultural practice as springing from the land. This recognition has given rise to a literary school, a group of Tamil writers who call themselves the Karisal Ilakkiyam.

One of the writers of this school K. Rajanarayanan, in the course of conversation spoke about how important women were in the preservation of the Karisal culture, and went on to narrate a story of a female ancestor which went as follows: A banyan tree near Tirunelveli, I was told, was worshipped for a particular reason. The story is told of a woman who was raped by Muslim marauders who then pursued her on horseback. She ran as far as the banyan tree and embraced it and was absorbed by the banyan tree. She is now a symbol of virtue and a constant reminder of "the violation of the Telugu people."

In this specific instance, it is interesting to take note of the process through which a migrant group achieves the status of a dominant caste and the legitimization of this status through myth. Further, how does gender figure in the attainment of dominance. More simply, what has been the historical experience of women in this group, an experience that was contingent on the quest for dominance. Is this an experience that is "consistent" within our frameworks? This question is asked against the fact that while the level of education was much higher among women than among men, and while women played a major part in supervising cultivation of land and had a greater say in the sale of produce etc., there was a strict proscription on widow remarriages, child marriage was not uncommon, intergenerational marriages [with the mother's brother] were the most preferred form of marriage with two or more sisters being married to an only maternal uncle, stated consciousness of difference, both of caste and religion was greater and apparently more strictly adhered to by women.

Conclusion

How is inequality organised? In order to understand what people talk about, we must ask what people may want or fear [the fear of "dalit hegemony" in the Mandal era for instance]. The analysis of meaning must be followed by an analysis of structures that people realize through their actions. This should be done by asking how ordinary people, pursuing their own subjective ends, realise the structures of inequality that constrain their possibilities. There must be a movement back and forth between an analysis of how structures shape people's experience and an analysis of how people, through their actions, realise structures.

The creation of meaning, and its realisation through structures, not just structures "within" that specific caste society, but structures that belong in the realm of the "secular" [read casteless] state, forces us to examine the caste-kinship-gender-state nexus as pivotal [I have in mind here the numerous instances of violence by the upper castes on the lower castes, not an uncommon occurrence in

India]³⁰. There would at various points, moments, periods in history would occur shifts in these meanings and contingent shifts in structures and vice versa. grounding our analysis of social wholes and fashioning our systemic models of inequality within particular historical sequences will enable us to see how the dynamics of past actions and ideas have created structures in the present³¹.

While gender is socially constructed, the hegemonising of gender formations is accomplished through the agency of the state. This is a crucial element in the present analysis. Right through history, the state has had a major stake in sexual politics, in India, in caste politics and caste hegemonies as well. The state derives its power from more than the simple distribution of benefits: it has a constitutive role in the construction and reconstruction of social patterns³².

Clearly, gender plays a critical role in structuring social relationships in caste society. But it has not yet, after over fifteen years of feminist scholarship, entered the analytic schema in any meaningful way.

Notes

- 1 Jane Fishburne Collier and Sylvia Junko Yanagisako. "Introduction". In Collier and Yanagisako, ed., *Gender and Kinship: Essays Toward a Unified Analysis*, Stanford, CA: Stanford University Press, 1987, p. 45.
- 2 This essay should be read along with an earlier essay by me co-authored with Vasanth Kannabiran, "Caste and Gender: Understanding the Dynamic of Power and Violence", *The Economic and Political Weekly*, Vol XXVI:37, September 14, 1991, pp.2130-2133.
- 3 I must hasten to add that my own effort is undoubtedly possible only because of the vast terrain already charted by scholarship on caste. In not using all or most of the work directly in my argument, therefore, I am not rejecting or dismissing this scholarship, but picking up the loose ends, as it were, and identifying the areas of darkness and trying to see how this links up to the analytical and ideological frameworks that have allowed these darkensses and loose ends to remain undisturbed.
- 4 Power, authority and dominance exist in and with reference to specific historical situations, modes of production and social formations. An explanatory shell that cannot account for historical specificities, by definition, cannot accommodate these as factors and determinants of social relationships.

- 5 Use of brahminical textual sources should in this exercise be peripheral, and certainly not be considered as autonomous self-explanatory modes.
- 6 Collier and Yanagisako, "Introduction", in Collier and Yanagisako ed. *Gender and Kinship*, p.46.
- 7 Celestin Bougle. *Essays on the Caste System*. (Translated from the French with an Introduction by D.F.Pocock.) Cambridge: Cambridge University Press, 1971 (first published 1908), p.26.
- 8 Morton Klass. *Caste: The Emergence of the South Asian Social System*. Philadelphia: Institute for the Study of Human Issues, 1980, p.63.
- 9 Morton Klass, *Caste*, p.63.
- 10 See Uma Chakravarti, "Whatever Happened to the Vedic *Das*? Orientalism, Nationalism and a Script for the Past", in Sangari and Vali, ed. *Recasting Women: Essays in Indian Colonial History*. New Delhi: Kali for Women 1989 & New Brunswick: Rutgers University Press, 1990, pp. 27-87 [Rutgers edition].
- 11 Partha Chatterjee, "Caste and Subaltern Consciousness", in Ranajit Guha ed. *Subaltern Studies V*. New Delhi: Oxford University Press. 1990, p.175.
- 12 Partha Chatterjee, "Caste and Subaltern Consciousness", p.178.
- 13 Louis Dumont. *Homo Hierarchicus: An Essay on the Caste System*. (Translated by Mark Sainsbury), New Delhi: Vikas. 1970.
- 14 Partha Chatterjee, "Caste and Subaltern Consciousness", p. 182.
- 15 Partha Chatterjee, "Caste and Subaltern Consciousness", p.185. Chatterjee stresses the need for an immanent critique, by pointing out that an external critique of caste, drawn from the liberal ideology of Europe, although in principle it provides a more democratic basis for this unification, in practice has right from the outset been unable, given the cultural and historical realities of India, to sustain this democratic process.
- 16 Gerda Lerner. *The Creation of Patriarchy*. Oxford: Oxford University Press. 1986.
- 17 Gerda Lerner, *The Creation of Patriarchy*, pp.110-111, passim.
- 18 To reiterate my earlier argument, this does not, to my mind serve any useful purpose since an ideal typical formulation of caste would lead us back into the trap of essentialising the institution.
- 19 Rosser, "Social Mobility in the Newar Caste System", in Christoph von Fuhrer Haimendorf, ed. *Caste and Kin in Nepal, India and Ceylon: Anthropological Studies in Hindu-Buddhist Contact Zones*. Bombay: Asia Publishing House. 1966, p.73.
- 20 Inden and Nicholas. *Kinship in Bengali Culture*. Chicago & London: University of Chicago Press. 1977.
- 21 Gail Omvedt, "Review Essay" of Klass. *Caste*. in *Bulletin of Concerned Asian Scholars*, Issue? p. 63.

- 22 Bougle, *Essays on the Caste System*, p.24.
- 23 Hutton, *Caste in India: Its Nature, Function and Origins*. Bombay: Oxford University Press. 1969.(first published, Cambridge University Press, 1946.) p. 71.
- 24 Dumont, *Homo Hierarchicus*, pp. 138-139.
- 25 Dumont, *Homo Hierarchicus*, p. 138.
- 26 Nanneke Redclift, "Rights in Women: Kinship, Culture and Materialism". In Sayers, Evans and Redclift, ed., *Engels Revisited: New Feminist Essays*, London & New York: Tavistock, 1987, p.125.
- 27 Redclift, "Rights in Women", p. 127
- 28 Karen Sacks. *Sisters and Wives: The Past and Future of Sexual Activity*. Westport, VA: Greenwood Press, 1979.
- 29 Karen Sacks, *Sisters and Wives*.
- 30 This point has been argued out in detail by me in the context of the increasing caste violence that we witness today in an article [co-authored with Vasanth Kannabiran], "Caste and Gender: Understanding Dynamics of Power and Violence".
- 31 Collier and Yanagisako, "Introduction", in Collier and Yanagisako ed., *Gender and Kinship*, p.47.
- 32 R.W.Connell. *Gender and Power: Society, The Person and Sexual Politics*. Cambridge: Polity Press. 1987, p.100.

Women and Science

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INDIA is a vast country with diversity in topography, climate, resource availability, culture, customs, lifestyles and population. Nearly half of its human resource potential - the women - have not been active actors and partners with men in development which has resulted in an unbalanced growth. To neglect half of its human resource potential or to consign it to a marginal and inefficient position is a wantonly wasteful endeavour. This situation has occurred because of the manner in which women have been perceived due to rigid social customs and habit. The patriarchal system perpetuates the subordinate and secondary position of women in the family, society, nation, and the world at large. Women were and are always second to men. In the words of Gilman (1)

"The man needs the wife and has her, needs the world and has it. The woman needs the husband and has him, needs the world and there is the husband instead. He stands between her and the world with the best of intentions, doubtless, but a poor substitute for a fuller human life".

The constitution of India also recognises equal rights and privileges for men and women and directs state for making special provisions for women. Even at the end of 25 years of independence, women in India were far behind men in every sphere of life. The Government of India in 1971 appointed a committee to look into the Status of Women in India (CSWI). The CSWI and the UN World Conference held in Mexico in 1975 followed by Women's Decade (1976-85) generated an awareness in the people

towards skewed development in India and problems faced by women. This led to the introduction of welfare measures to raise the status of women which included application of science and technology to improve women's lot.

From the First Five Year Plan to the Fifth Five Year Plan (1974-79) in Government of India's welfare measures, family unit had been the focus of all development efforts with men coming to the foreground to receive the benefits as main economic providers thereby relegating women to the background, literally by-passing them. The Sixth Five Year Plan for the first time revealed a visible trend to 'Development of Women' from a 'Welfare Perspective'.

The Sixth Plan document states thus:

"The question of development activities related to women vis-a-vis Science and Technology has two aspects. First, there is the contribution by women to the development of S&T. Second, one has to consider as to how S&T can contribute to improvement in the life and status of women generally" (2).

Women Personnel in Science and Technology

India has emerged today as an industrial giant and has one of the largest scientific human resource (over 4 million) in the world though its women scientists form only a negligible proportion of the total. The level of participation of women in S&T

seems very low as evidenced through a survey of 1981 which revealed only 14.4 per cent women in the total scientific personnel in the country. Of this, 86 per cent were in science while 11 per cent were in medicine and 3 per cent only were in research (3).

Though University Grants Commission's report reveals an increased enrollment of women in Science, this does not commensurate with an increased rate of appointment of women as scientists and technologists. Report of Science and Technology Department shows only about 3000 women in R&D work amongst a total of 65,000 (4). Council of Scientific and Industrial Research in a study revealed that in 1980 there were only 162 women out of 3828 scientists in CSIR and among 543 senior scientists there were only 6 women scientists (5). Today the situation has not changed drastically. Indian women have thus failed to gain access into scientific establishments and R&D units as men though they have equal opportunities to develop intellectually. When compared with other countries like Bulgaria, Hungary, Yugoslavia and those of erstwhile USSR where women scientists range from over 20 to 40 per cent of the total (6) the Indian scenario is very grim.

Chakravathy (7) observed that women scientists, by and large, are not productive in generating patents and experimental devices as male scientists and attend to, in large numbers administrative work rather than creative scientific work. The time devoted by male and female scientists on management and administration revealed significant difference with the male spending more indicating the difference in the hierarchical positions. However in R&D work no significant difference in time devoted was observed between the two sexes.

In institutions of higher education vertical segregation is pronounced for women. Women in professional rank are very few.

Reports from three major European countries reveal that they are less than 10 per cent with France having 9 per cent, West Germany 5 per cent and United Kingdom 3 per cent. Horizontal segregation is evident in the case of women teachers who are over represented in humanities and social sciences like languages, culture, history and are under represented in mathematics, and technical subjects. In European Universities these subjects are taught exclusively by men. Only 2 per cent of women holding chairs (headships) in German Universities are in maths, physics, chemistry and engineering (8).

Sear (9) observed gender bias in appointments made and existence of prejudice in appointing women to senior positions. There are ample empirical data showing more women in lower status jobs in light industries, lower wage unskilled or semiskilled tasks.

Women in Science Education

Even after nearly 50 years of independence, welfare and development measures, much remains to be achieved in women's participation in science. Full and active participation of women in science calls for greater involvement of girls/women in science education. Girls' education was not a priority due to lesser significance given to them in general and because of the feeling that investing in their education is not a worthwhile exercise as they are to be sent to another home and as they are required to take up the role of procreator and family caretaker. Society at large and families at microlevel failed to recognise the value of an educated woman as an enlightened wife and mother and also as an income generator if need be there. Equality of education for women suffers a set back from lack of access to schooling, restrictive stereotypes in school and in the society - stereotypes of what is 'natural' and 'acceptable' for each sex. This creates subtle barriers to the full

development of their intellectual abilities even when they have access to education.

Though literacy rate may be considered as an indicator of the entry of women into formal education, it cannot be treated synonymous to science education as there exists a wide gap between basic literacy and its mastery, and literacy in science and its mastery. The latter empowers women in an enduring manner. The enrollment of girls in higher education has improved steadily in the past two decades with more girls opting for science, medicine and engineering. The ratio of girls and boys was 2:5 in science subjects and 1:20 in engineering and technology in 1984-85. Mostly girls form higher economic strata were observed to seek admission to these programmes or study (10).

To break the traditional constraints and to promote girls/women's education various measures like universalisation of elementary education, launching of women's universities, free education for women as in Gujarat are introduced from time to time by the Government of India and state governments.

Girls often choose subjects that conform to their cultural image rather than their potential ability. The global scene reveals that women account for one quarter of the students in the more powerful fields of law, engineering and medicine while they account for two-third of the students in advanced programmes in humanities, education and fine arts. In higher education level as well, the increase in women's enrollment between 1960 and 1980 was more in traditionally strong subjects like humanities, education and fine arts - 63 per cent in developed countries and 72 per cent in developing countries. Men, on the other hand, favoured the more technical and higher paid fields of law, engineering and medicine. Their entry in 1980 was twice that of women students in these fields. Preference of nonscience

fields of specialisation has negative implications for occupational entry and better pay scales. A woman's chances of obtaining an education in the developing world will be about two-thirds of those of a man's (8).

Women and Technology

Science and its treasure house of knowledge will not have any worth unless it is applied to improve productivity and life of people. The application of science leads to development of technology, be it, process, methods, tools & instruments, information, materials and so on. The perspective on women and S&T was not holistic as it failed to recognize the potential S&T has to enhance productivity of women and vice versa and a look at policy statement reveals its application to reduce drudgery of women through development of household and agricultural technologies, technologies for improvement of productivity and to reduce occupational hazards especially with reference to those women in low paid lower status jobs (2). Here again it seems to have by-passed a major section of the 50 per cent of the vital segment of human resource of the country.

The assumption with reference to women and science are that women reap benefits and costs of S&T equally with men, women due to their differential socio-economic roles and functions are impacted differently by S&T and women across the population at a given time have needs and responses to S&T of varying kinds and hence a common technology will not be relevant though underlying scientific principles may be the same.

The purpose of S&T for women cannot and should not be any different from that of the other segment of the population - men. Yet it is different in content, component, ethos and focus due to stereotyped, tradition bound culturally moulded roles of women. The major purposes of S&T for women

identified by policy and partially in the hitherto prevalent social context reveal that it is based on the sexual division of labour which needs to be changed.

The advancement of S&T as a dimension of economic development requires the participation of human beings as producers and consumers, involves policy related to human power, planning, raises issues regarding distribution among people of the benefits and control of improved artifices and methods of producing goods and services, be it for home consumption or for market. Technological progress and development ought to consider, then, women's perspective and technologies should be made with reference to women's work to the same extent as men's work, as they too have an equal role to play in nation building. The spread of science and technology should extend extensively to rural and urban areas.

Palmer (11) made a reference to the bias that exists in technology development by his observation that technological changes are studied in reference to male workers and male employment as female labour is regarded economically insignificant and socio-politically invisible.

Application of S&T has both positive and negative effect on people and society. As such S&T are gender neutral as it has relevance to either sexes. But in reality its use is dictated by the roles each sex assumes in the process of living. Many a time technological advances have had an adverse effect on women though it benefitted men and society at large (12,13,14,15,16). At times machinery replaces female workers by male workers and push women to non-automatic and older machinery (17).

Often technological changes for women are not results of programmes directly aimed at them but are indirect consequences of planned or unplanned innovations. The best example for this can

be drawn from biomass conservation programmes of Government of India like Solar Cooker Programme, Biogas Programme and Improved Chulha Programme. These in their initial stages did not have women's perspective even in objective formulation. However subsequently the objective of improving work life of women through reduction in drudgery of women and health hazards in cooking was incorporated. Cooking is a major task in terms of its importance in ensuring energy (calorific intake) source to enable people to work and in terms of the time it consumes as compared to other day-to-day life supporting activities. The rural kitchens have not been invaded with application of science and technology until recently though urban kitchens have witnessed a sea of changes in workplace designs, materials, tools and equipments, storage centres, cooking units and fuels, to mention a few. There is no better example that can be given than cooking which is considered as a woman's responsibility where basic principles of science - physics, ergonomics, fluid mechanics, material science etc can be applied to enhance productivity, conserve resources, improve quality of life and environment. Improved cooking technologies contribute to women's development in many ways (18). Yet a critical look at the national programmes on these reveal the minimal involvement or rather non-involvement of women in various phases - starting from technology designing and development to its transfer. The involvement of women in policy making in this area is also negligible, though may be better than some others. Out of twenty Technical Backup Units for Improved Chulha Programme there is just one that is headed by a female scientist (19) while the other two, Solar Cooker and Biogas Programmes, do not have that even. Involvement of women scientists in technology programmes along with men changes the whole perspective and makes it more user appropriate and relevant to the social context.

In a professional world women lack access to improved means of production and there is less capital input in terms of improved tools and work environment. They have lack of access training and knowledge. They are often victims of technological obsolescence. Exposure to occupational hazards is more in their case. The job placement women get is proportionately less though there is increased trade cycle (20,21).

Women's accessibility to the various technologies will depend on her knowledge of its existence and its value in her life, her capacity to meet the cost of access to these - cash at her disposal for purchase, hiring or sharing, her perception of its benefits and costs (monetary, social, psychological etc.), her power and authority in decision making, her priorities and will to commit herself to progress.

Why Such a Grim Picture on Women and Science

There is no doubt that Indian women can do as well as men in any scientific endeavour as they are no less in intellectual capacity. However empirical data shows that the participation and excellence achieved by women do not parallel that of men. Let us examine why there is such a grim picture on women and science.

1 Myths about women and science:

Some myths (22) about women and science are widespread and prevalent at various levels, viz., international, national, regional, state, local community (rural and urban), family and individual. These include:

- i) Women are not mechanically or technically inclined or capable of thinking or working scientifically
- ii) Women are not interested in science and technology

iii) Programmes directed at improvements of women's participation in mainstream of development should concentrate on their domestic, supportive or servicing roles (child care, family health or sanitation etc).

iv) Women cannot be successful scientists and technologists. Some of these myths are internalised in the individual women themselves through socialisation process and this has denied many opportunities to them.

2 The socialisation process begins at home at a very early age. Culturally imposed sex roles and constraints shape self-images, attitudes and ambitions. Girls are expected to be passive and obedient, boys active and competitive. Advertising often identifies women with household cleaning products, men with machines and advanced technology. Girls are encouraged to play with dolls while boys with jeeps and mechanosets.

3 Social environment was and is non-conducive for women to take up challenging and stimulating activities and excel.

4 Attitude towards girl's education and philosophy of institutions guiding students towards fields of specialisation and into careers could be responsible for low number of women in science.

5 Terman stated that besides intelligence, sex determines an individual's career. As per his observations:

"while girls equal or surpass boys in school and university period, they cease to compete with them in the working world and this behaviour was not attributable to lack of ability but that its basis should be sought in the limitation of opportunity and in other motivational causes which derive from the process of socialisation" (23).

- 6 Astin reported that boys are encouraged more than girls to join science and that parents provide more stimuli for boys to choose careers in science (24).
- 7 Girls experience difficulty in identifying with male dominated activities in the fields of science and also experience the genuine dissonance between the intellectual demands of science and feminine qualities (25).
- 8 Another difficulty women face is in terms of time commitment, male pattern of work and career, and also the fact that men have difficulty in including women in the social network and support facilities (26).

The root cause/s of low involvement of women in S&T education and profession need to be identified and tackled appropriately with their participation to break the shackles of tradition and normal practice.

What Should Women Do?

The concern in S&T is the result of the desire to harness and make available knowledge and findings of the scientist to improve life of people.

Women should acquire new knowledge and skill to excel in science. Disparity in education of girls should be removed and women should play the key role of change agents in reorienting the traditional socialisation process. They hold the key to make shifts in socialisation process as their roles are most crucial within the home environment and in pre-school and primary education levels as teachers. The role model projected by father should also match the changing needs of the society in this direction.

Through fostering science education for girls a milieu should be created to restrict by-passing women in high tech fields like

R&D in microtip technology. Future technologies should be anticipated to ensure women's competence in the new fields. Women with science and technical education should exploit openings in new areas. They should be alert to gain access to science education, better managerial training and better employment. Women need to develop skill in operating, monitoring, repairing and maintaining machines. Women should take advantage of opportunities for in-service training. They should participate actively in policy and decision making bodies. They should reveal greater commitment to their profession and get rid of 'guilt feeling' in being professionally committed along with their familial role. Appropriate coping strategies ought to be developed and applied by women to manage their multiple roles efficiently and effectively with the least stress.

Research Needs in the Area of Women and Science

Report of the Working Group in Personnel Policies for Bringing Greater Involvement of Women in S&T brought out by Ministry of Social Welfare in 1981 has given terms of reference as follows:

- 1 Review extent of participation of women in scientific establishments at different levels
- 2 Consider the need and difficulties of women scientists that may act as constraints in their fuller participation
- 3 Suggest suitable measures for facilitating and promoting greater involvement of women in S&T

These can be used to give broad directions to research on women and science in spite of the fact that these reflect only women in S&T profession. Further a glimpse at the recorded involvement of women in science raises certain questions like:

- 1 Why women do not opt for science in their higher education? What social, cultural, economic, psychological and organisational factors act as impediments to women's entry to science?
- 2 What characteristics of science discourage women from joining for science? What are the motivating factors for girls to choose life sciences, chemistry and humanities and for boys to select science, technology, physics and mathematics?
- 3 Do women have scientific temper? Do they possess creative abilities to be scientists and technologists? Are men superior to women in scientific genius? Is difference in the anatomy of men and women the cause of low participation of women in science?
- 4 Is socialisation process in the family, school and society the root cause of differential participation of women in science? Are girl students conditioned to assume the traditional stereotype role through socialisation process due to which they develop an aversion to science? Are feminine qualities like submissiveness, dependence, passive disposition and emotionality, hindrance to scientific endeavours? Can certain characteristics be imbibed in women by family, school and society to enable them to take to science?
- 5 What actions are being taken by family, school and society to reorient the educational system for gender equality in choosing science?
- 6 Do economists, politicians, educationists and women scientists in key positions make an effort to influence and mould policy decisions, that favour women's entry into science?
- 7 What are the factors that impact adversely on women's greater partici-

pation in S&T professions? What are the reasons for failure of women to benefit from increased production and productivity?

- 8 What are the base-line characteristics of women in science, in S&T employment and scientific research? How well do these compare with those of men?
- 9 What are their working hours, absenteeism rates, unionisation, industrial disputes, housing issues etc. by their base-line characteristics? How well do these compare with those of men?
- 10 Do women perceive their situation as better/worse than they expected? How do they perceive the role of women in S&T?
- 11 What efforts are made to reach science to women in rural areas and what are its impacts on women? What is the extent of involvement of women in S&T development and its transfer in rural and urban areas?

The above research questions do not represent an exhaustive list but throw light on researchable topics individually or in combination. These researches should be aimed at evolving suggestions to improve women's involvement in science and their development and thus country's economic growth.

Research Methodology

Descriptive research design with survey and case study method using anthropological approach to build data base on women and science is appropriate. This would give global picture as well as indepth understanding of the issues studied. Researches on women in science should consider them in different contexts like work situation and community (global, national, social, family etc.) contexts to capture data in the right perspective.

Fact finding research or exploratory studies, development oriented research, experimental studies, action oriented research and policy oriented research are needed in this area. Questions without any preconceived notions should be raised to research into this area. Sectoral approach may be used in research on women and science and various studies may then be pooled to obtain overall picture to guide policy framing. Longitudinal as well as cross sectional studies are required to gain insight into events over a period of time and across groups at a particular point of time respectively. Disciplinary approach or inter disciplinary approach (problem centered approach) may be used to research on women and science. Focus group discussions, detailed observation technique, participatory research and rapid appraisals - rural/urban - may be used in addition to conventional methods to generate data.

Method of analysis to be followed depends on the purpose. Simple frequencies, percentages, mean and standard deviations presented fruitfully would enable one to see trends, causal relationships etc. which would prove important for policy makers. Inferential statistics would be required to make generalisations and predictions. Statistical analysis makes possible to have a comprehensive look at voluminous data on women. Researchers on women & science need special skills and therefore training to capture gender differences and complexities that operate in the field of investigation.

Conclusion

The internalised values transmitted through socialisation process which is reinforced by

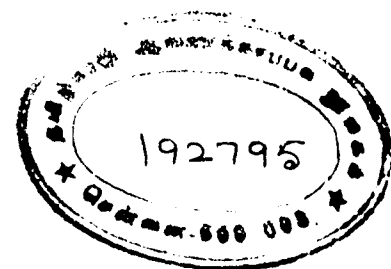
gender based distribution of work in Indian patriarchal society underlie the voluntary avoidance of science education and employment in scientific establishments by women. The special treatment of women's development concerns as 'women's issues' tend to reinforce the traditional approach and everyone including women themselves have to come out of this 'women's issue syndrome' to think on equalitarian lines. Lack of political will and fear of being labelled as non-conformist to conventions can perpetuate the secondary position of women in science. Most women are 'technology shy'. Women who are the 'natural educators' ought to be strengthened through science education and brought into the mainstream of development. Women have to take the leadership to bring forth a sea of changes by promoting gender equity within and outside, encouraging entry of girls on an equal footing with boys in S&T education and employment, participating in S&T development and enhancing popularisation of S&T amongst women in specific and society in general. Each of these aspects need to be researched using conventional research methods and tools supplemented with anthropological approach and newer techniques to build data to serve as information bank on women in science and as input to policymakers and planners as well as promoters to review, revise and formulate appropriate policies and strategies to further the involvement of women in science and achieve a more balanced economic growth. To fully reap the benefits of the human resource potential of the country, this chain of actions need to be activated and then development in true sense would become a reality.

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72
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