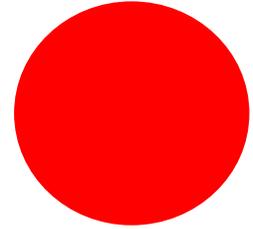


March 1989



The Role of Technology In Women's Work and Health

Observations and field studies carried out by researchers, all over the country (and in other countries of the Third World) indicate that technology impacts on women in 2 basic ways:

- 1) By displacing women's labour
- 2) By increasing women's burdens and socio-economic vulnerability.

Let us examine these effects more closely:

1) In example after example, we find that the introduction of technology for processes or functions, traditionally performed by women, results in their displacement and the takeover of such processes and functions by men. This generally occurs in the following manner.

It had been well-established that in most agricultural and unorganised industrial activities, women perform the most arduous, monotonous, and drudgery-laden tasks, e.g. transplanting, weeding, threshing, rice-husking, fuel searching and carrying, beedi-rolling, tobacco-processing, scavenging, coir-yarn-spinning, coir rope-making, cashew and fish-processing. These are only a few illustrations. Most of these activities are almost entirely manual, performed with only primitive tools and implements.

However, whenever a better, labour-saving, productivity-increasing or safer technology becomes available for such tasks, the women who traditionally performed them are almost immediately eased out and replaced by males. Several illustrations of this are near to hand; automatic grain threshers, almost exclusively operated by men, are present in all intensive agriculture / green revolution belts, whether in Punjab, Haryana, Uttar Pradesh or Rajasthan. But only a couple of decades ago, threshing of harvested grains was done only by women, and was an important source of income for women agricultural labourers and peasants.

Similarly, the introduction of a rice husking machine by the government, with credit provided by banks, eliminated women in rice-growing areas such as West Bengal, Orissa and Andhra Pradesh, from what had been a major source of income, particularly for destitute women and widows. The new technology, and the credit needed to acquire it, was captured by local men folk who would never have been caught dead husking rice by hand, which was considered a "woman's job". The same is true of net-making in Kerala.

Again, milling of grain by hand on stone flour mills was another task almost solely performed by women in various parts of the country. Today, with "electrification of villages" proceeding at a rapid rate, electric flour mills can be seen even in small hamlets, owned and operated by men.

Micro-studies from all over the country have also reported that the arrival of even non job-related technological innovations like bicycles have not helped women. It is a common sight to see a man riding his bicycle while his wife follows on foot with a load of firewood on her head and an infant on her hips.

2) At another level, there is growing evidence that the availability of new technologies actually aggravates women's situation and workload, while simultaneously reducing their avenues of wage-employment or self-employment.

a) While mechanisation has displaced women from traditional tasks, their work participation rates have actually increased in green revolution belts, because increased production is resulting in more women joining the agricultural labour force, but in return for unequal wages. The latter trend has also been accelerated by the increased recovery of land from tenants created by the new technology. Furthermore, small holders, who cannot afford the high investment demanded by the new technology, send their women to work as labourers on others' farms and use their income as capital for investing in mechanisation.

b) The increased earnings, generated in technology-intensive agricultural belts, have also increased women's traditional work burdens; tasks like fuel collection and cooking have become more onerous because women are expected to feed the hired labour on their farms, apart from their own family members. Similarly, since mechanisation has pushed women into the most difficult, physically exhausting activities they complained of having to work harder and far longer hours than before.

c) Social problems of women have also been aggravated in such areas, and this is one of the indirect consequences of technology on women's situation. Studies have shown that the new affluence in Green Revolution belts has not necessarily led to greater expenditure on basic needs like food and shelter, but OM things like liquor, drugs, and gambling. The latter have increased the incidence of wife beating, rape, molestation, and other forms of violence against women.

Technology and Women's Health

While we have discussed some of the general effects of technology on women, there are even more specific effects of technology on the health of poor women. Broadly speaking, technology has the potential to affect women's health both positively and negatively and both indirectly and directly. Furthermore, there is growing evidence that women pay the price of ill-health even with technologies that are ostensibly health promoting. Let us examine each of these issues separately.

Negative Effects of Technology:

1) Work, Food and Health

We saw earlier that technologies aimed at 'development' had either displaced women's labour, or increased their workload, or aggravated the oppression of women and violence against them. But these very same dynamics have a further impact on women's health, particularly on their nutrition.

Various studies have established that women's share of the family's food and access to medical services is not only far less than man's but inadequate even in absolute terms. For example, studies in the developed' or 'boom' areas of the country (where technology has played a key role) show that the health and nutrition status of women has actually deteriorated, and that the incidence of low-birth-weight babies and neonatal mortality (both highly co-related to women's nutrition status) has increased. This has been linked to the fact that the affluence generated by the new "agricultural technologies has not been used for improving food intakes, but, under men's control is diverted into non-essential expenditures. Thus, on the one hand, the family's food basket continues to depend largely on women's meagre earnings, but men continue taking the lion's share of the food. On the other hand, as we saw earlier, women's workloads have also increased, thanks to technologically induced changes in work and production relations.

All this results in an under-nourished, over worked, and unhealthy woman, unprotected by any labour laws of social security measures. Similar examples of the indirect but negative impact of technology on women's health can be found in various other sectors, such as in crafts, weaving, carpet-making, match-making and fireworks units, tobacco, textiles, rope-making, and a host of other informal sector occupations.

2) Technology and occupational health hazards

There are also a number of cases where the introduction of new technological processes itself harms women's health. For instance, several studies commissioned by the Task Force itself have highlighted the fact that new areas of economic activity, made possible by the availability of new technologies, have resulted in negative health impacts on women.

The electronics and pharmaceutical industries are classic examples of this. Here, where women are almost exclusively employed in certain functions, the trend towards miniaturization and handling of hazardous substances directly affects the health of workers. Eye problems, postural complaints like backaches, headaches, skin irritations and allergies, are some of the many health problems faced by women workers. In industries like match-making, where women and children form the bulk of the labour force, the chemicals being handled constantly lead to untold health effects.

Such direct effects on health are largely due to the fact that technologies have been developed for productivity and profit, with workers' safety, posture, and overall health not entering the picture. And with avenues of employment being so limited for women, they are unable to organise or demand safety measures even when they are well aware of the impact of their work on their health.

3) Health hazards of health technologies

Ironically, several medical technologies, ostensibly evolved for improving the health of the people, and particularly of women, have created precisely the opposite effect. The best example of this is in the area of contraceptive technology.

From the 'sixties, women have been the focus of the family planning programme in India, and the one and only attempt at promoting male sterilisation caused a severe backlash. With the growing panic about increase in population, the onus of birth control has been placed on women, and specifically on poor women. However, the contraceptive techniques that are offered to-or rather thrust on-women have 2 invariable adjuncts:

(i) They are technologies which are outside women's control, requiring trained professionals to install them or provide follow-up. e.g. the IUD, tubal ligation, injectable contraceptives and laparoscopic tubectomies.

(ii) They are technologies which can be hazardous to women's health at two levels: (a) either because the technology itself has side effects (as is the case with injectables and intra-uterine devices like the loop and the copper T) or because (b) to be safe, the technology has to be applied by highly-trained experienced hands, and within an environment where sterile conditions and adequate after-care are scrupulously maintained. Under the present conditions, where mass laparoscopy camps, with inadequately trained doctors and unhygienic conditions are the order of the day, such technologies place women at an even greater risk.

This is indeed ironic in light of the fact that birth control is propagated as an intervention which is supposed to promote women's health, not endanger it. It is a well documented fact that repeated pregnancies and lactation in poor women, coupled with inadequate nutrition and increasing work burdens, form a vicious cycle which drains and debilitates them. This, coupled with national concern over the so-called population explosion (though not, one notices, over women's hunger or overwork) has led to contraceptive technologies being positioned as a virtual preventive health measure for women.

But it is paradoxical that the excessive bleeding, cramps, backaches, headaches, nausea, dizziness and swellings reported by thousands of women who have undergone IUD insertions, laparoscopic sterilizations, and most of all, injectable contraceptive like Net-en and Depo-Provera, are dismissed as "minor problems" or "exaggerations". Perhaps this cavalier attitude is due to the fact that the majority of these women are poor, labouring, uneducated, and from the lower strata of society, and a majority of the doctors are middle or upper class males. And while a middle or upper-middle class woman can have the ill effects of such a "health" technology attended to by her doctor, poor women have neither the means, nor the access to do so. Thanks to the camp approach, and the lack of accountability of health services to the poor, these women have no recourse but to suffer the side-effects in silence, no matter how much their normal functioning is impaired.

In many cases, researchers have found that poor women were not even aware that they were participating in clinical trials for injectable contraceptives. They were paid attractive sums of money to regularly take injections which, they were told, were "good medicine" to make them "healthy". The symptoms they developed were treated either as "psychosomatic" or as unconnected conditions.

And while birth control and the small family norm are being vigorously promoted, on one side, another supposed "health" technology, viz, amniocentesis, is actively working in the opposite direction. Amniocentesis, originally developed to detect foetal abnormalities, and save women from the mental and physical effects of bearing and rearing deformed children, has become a tool for sex-determination and pre-selection in our society, which accords women such low status.

Amniocentesis-cum-abortion clinics are proliferating all over our country, without let or hindrance from either the government or medical bodies. Ill-equipped and poorly trained doctors and technicians are performing this test, which requires a high order of skill, on thousands of women, with disastrous results in many cases: rupturing of the amniotic sac and deaths from anaphylactic shock or haemorrhage are some of the known consequences. Preying on the socially-enforced desperation for a male child, these clinics also perform abortions on women at dangerously advanced stages of pregnancy, with inevitable results on their health, and sometimes on their lives.

These are only some of the most serious and widespread problems created by so-called health technologies. Far from improving or preserving the fragile health status of women, they often actively endanger it.

Therefore, the whole question of technology and women's health must be seriously re-examined in this context, particularly where the technology is not within women's control, or where it facilitates the existing negative attitudes to women, or promotes male-domination.

4) Lack of technology and women's health

Another area for concern and action is related to the lack of technology and the consequences to women's health. In the foregoing sections, we have seen the negative impact of technology displaces women, increases their workloads, or directly and indirectly impairs their health. However, technology impacts on women in a passive sense as well, specifically, by its absence or lack in areas where women require it.

Examples of this are numerous and can be seen wherever poor women work and live. The absence of simple technologies for domestic fuel, for cooking and heating, for pumping water closer to the user, for implements and tools which will reduce the drudgery, energy-intensiveness, and health hazards of women's work (whether wage-work or subsistence work), not to mention increasing their efficiency and productivity or generating much-needed time for leisure and rest, is a major lacuna. Repeatedly, the Commission (National Commission on self employed women) observed the almost primitive production technology, which, with small changes, could reduce the physical labour of the women.

The problem here is of three kinds: (i) where technologies have been developed but have not reached the majority of poor women for structural, administrative or other reasons. The smokeless chulha is an excellent illustration of this. Various fuel-efficient, energy-saving models, which virtually eliminate the toxic fumes emitted by bio-mass fuels in traditional cook stoves, have been available for over a decade. However, rather than the Government disseminating these on a war-footing with credit support for their purchase and installation, only a miniscule number of rural and urban households have obtained smokeless stoves, and these too largely through voluntary and non-governmental organisations.

ii) Where no technologies have been developed for easing or facilitating women's work because the latter is itself a low priority in research and development. For instance, simple tools, implements or protective devices can be developed and distributed to women working in coir-yarn spinning, rope-making, tie-and-die, beedi-rolling, transplanting rice, shelling prawns, etc. These could be cheap, simply designed, mass produced by other women, and save them from untold miseries and illnesses. The fact that little or nothing is, in fact, available, in a nation capable of space satellites and nuclear power, speaks eloquently of the low value placed on women's labour and health,

iii) Where technologies have been developed, but are inappropriate or unviable for poor women because they have not been consulted or involved in the planning, development, and prototype-testing phases. Several illustrations can be given, but the coir-yarn spindle and solar cooker best symbolise the problem. In the former case, the stretching and twisting of coir yarn by hand cause, severe lacerations and abrasions on the palms of women and children engaged in this occupation. A protective wooden spindle-like device was developed to shield the palm from the sharp fibre. However, the device was designed for male hands, and was too large to be used by women and children, who predominate in this occupation! Similarly, the much-vaunted solar cooker, which eliminated the need for bio-mass cooking fuel and

required little or no tending, proved a failure in poor households for many reasons; it was expensive; it could not be used in the evening, when most poor women cook the main meal of the day; most models were not suitable for preparing chapattis or rotis³ the preferred staple in a large part of the country; and it required pre-planning of meals, an impossibility for most poor women who purchase whatever is available in the local market each day from their wages, or cook the grains and pulses they receive in kind for their labour.

Positive Effects of Technology:

Having dealt at length with the negative impact of technology on women, and particularly on women's health, it becomes clear that for technology to have a positive effect, one has often only to reverse directions.

For instance, installation of bio-gas plants, and training of women in their operation and maintenance, has directly benefited woman. They no longer have to travel long distances to gather cooking fuel, thus saving their limited energy resources. The case with hand pumps and drinking water schemes is very similar. Women welcome such innovations which save them numerous hours of labour. The Nada Chula³ designed with poor women's participation, and built by them with training in the basic thermodynamics of stoves, is another example.

Similarly, the design and development of tools, implements and protective devices for the occupational health hazards faced by poor working women in the unorganised and self-employed ranks, would transform technology from a negative to a positive force with immeasurable health benefits.

The withdrawal or modification of many health technologies, which have proved unhealthy for women, would more than compensate for the supported ill-effects of the absence of such technologies. For example, vigorous promotion of female barrier methods of contraception such as the diaphragm, (now the preferred technique in developed countries because they are the safest), would give women control over their contraception and eliminate the hazards of methods like IUDs and injectables. Amniocentesis for sex-determination should be banned, and not allowed at all in the hands of the private sector in medicine.

Finally, the negative gender-impact of technology can be modified or reversed to a great extent through a few simple interventions such as selective training of women only, to operate technologies which have the potential to displace their labour; provision of loans and other supports to women only, for the acquisition and operation of certain new technologies; selective development of technologies-particularly appropriate technologies for women-dominated occupations; reservation of jobs for women when the advent of technology threatens their employment, and even if it does not.

Technology can become a positive force for the empowerment of women only if its progenitor's and administrators are sensitive to the situation of poor women and the various roles they play, otherwise, it has proved to be a powerful instrument for furthering and refining their oppression and exploitation.

(Occupational health issues of women in the unorganised sector. Report of the task force on health. Prepared for the National Commission on self employed women. (Feb. 1988) Sujata Gothoskar prepared most of the report. Srilatha Batliwala contributed by drafting certain sections of the report).

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Universal Iodization Program and MFC

Participants of the 15th M. F. C's annual meet on Medical Technologies and Health Care organized at Alwaye, Kerala expressed their deep concern at the continued non availability of the iodized salt in goitre endemic areas.

In spite of the National Goitre Control Programme having been formulated in 1962 and recognition of the magnitude of the problem in the existing endemic Himalayan and sub Himalayan regions very little has happened to alleviate the suffering due to non availability of iodized salt. While sales of unionized salt in these areas had been made illegal, no effort to make the price of iodized salt less than unionized salt has been made as poor people still opted for cheaper salt.

There is no denying that the problem in the mountain states, the Terrain area, east U. P. Bihar, parts of M. P., is significant enough to warrant urgent measures. It is assumed that around 60 million people suffer from goitre.

In areas with over 50% goitre prevalence chance of birth of mentally, physically retarded babies is 2%. It is unforgivable that in spite of knowing about the association of gross lack of iodized salt with sub normality, higher rates of abortions, still births etc that availability of iodized salt to these areas has continued to be poor.

The increasing privatization of iodized salt production, distribution and its monopoly control was viewed with Concern where the subsidy was being given to the manufactures as regards making potassium iodate available. The cost of this salt was much higher than ordinary salt.

In presence of above, the decision to give universal iodization of salt would be seen as an attempt to ensure fresh market of a commercialized salt preparation to monopoly houses rather than really meeting the health needs of the iodine avid people in endemic areas.

As newer areas are becoming endemic there is a need for research to explain this phenomenon. Existence of goitre in non-iodine deficient areas as in Kerala could be due to presence of goitrogens. No efforts have been made to study the impact of sewage contamination, extensive pesticide, fertilizer usage in soil, presence of goitrogens in foods and effect of repeated floods. The solution there would be else where rather than more and more iodized salt for more and more people.

Further, since iodine, wholly imported as it is, inflates the cost of iodized salt; trying to push iodized salt in coastal and iodine sufficient areas would be a sheer economic waste.

However pockets of iodine deficiency, if they occur could be identified and availability of iodized salt to such areas ensured. Iodine deficiency disease is a public health problem. Ensuring availability of iodized salt of good quality with adequate iodine content in endemic areas is a high priority. Till this is ensured, making iodized salt sales and consumption mandatory is an economic waste. With an estimate of Rs. 1 Kg. extra cost of iodized salt over unionized salt and a consumption of 5 million tonnes of salt, the additional cost to the Nation i. e. the Government and the consumer would be Rs. 500 crores.

Since the entire iodine is imported the loss of foreign exchange for importing iodine for non endemic areas would be substantial. Moreover iodized salt is in some parts 400% costlier than unionized salt to the consumer; this additional expenditure to the poor in non-endemic areas is unjustified, specially since a significant percentage of our population is below or around the poverty line.

Besides economic reasons the possibility of potential side effects cannot be ruled out specially in a population where some people could develop hyperthyroidism due to iodine excess.

Wiping out small manufacturer traders and promoting monopoly control of the iodized salt production and marketing is definitely a major shift. Instead of strengthening the public sector and ensuring that most of the iodized salt is produced there subsidies have been given to the private sector, specially monopoly houses. This privatization was viewed with disapproval as had this subsidy been given to the public sector, it would have been through the public distribution system passed on to the consumer. Availability of iodized salt in endemic areas has to be ensured with proper water-proof packaging and clear marking of price and date of manufacture.

Quality control as regards availability of adequate iodine content in the salt at the point of production as well as point of distribution must be ensured. If the authorities are serious about the National Goitre Control programme, then whatever measures needed to correct iodine deficiency must be undertaken rather urgently.

Universal iodization of salt, as is envisaged under the National Goitre Control Programme does not automatically guarantee effective tackling of the I. D. D. problem. The motives behind universal iodization of salt would not have been doubted in the public mind had the above things been properly taken care of.

MFC concludes:

1. Availability of iodized salt in endemic areas must be immediately ensured.
2. Price of iodized salt in these areas must be subsidized.
3. Production of iodized salt must be through the public sector.
4. Studies to see the goitrogenic impact of sewage contamination, pesticide, fertilizers etc. must be immediately undertaken before universal iodization is made mandatory.
5. Subsidies should go to the consumer.

* *

Readers of the MFC bulletin must have noticed that those who wear a blue collar in the MFC bulletin office also specialise in playing the game of musical chairs. We are not sure whether this news brings music to your ears or not, but the latest happening in the bulletin is that the editor's office has now come to stay at Sevagram-lock, stock and barrel.

While at Alwaye, the venue of the XV th annual meet of MFC, we consciously tried to evolve a concept of collective editorial team. We feel that this approach would not only get rid off the monotony and staleness that gradually creeps into a periodical but would also ensure a more meaningful and creative participation from M FC aficionados.

To commemorate International Women's day (March 8), this issue of the bulletin focuses on women's problems. We congratulate Manisha Gupte for choosing this theme for the March issue and appreciate her help in bringing about this issue of the bulletin.

- Editor

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FORM IV

1. Place of Publication : 50, LIC quarters, Pune-16
2. Periodicity of Publication : Monthly
3. Printer's name : UN Jajoo & SP Kalantri
Nationality : Indian
Address : Bajajwadi, Wardha
4. Publisher's name : UN Jajoo & SP Kalantri
Nationality : Indian
Address : as above
5. Editor's name : SP Kalantri
Nationality : Indian
Address : Type 11/13
Medical College
Sevagram-442 102
6. Names and address of individuals : Anant Phadke
who own the newspaper and partners
or share holders holding more than
one per cent of total capital.

We, UN Jajoo & SP Kalantri declare that the particulars given above are true to the best of our knowledge.

Date 18-3-89

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Publishers

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