
**CHILD LABOUR AND TRANS-NATIONAL SEED COMPANIES IN
HYBRID COTTONSEED PRODUCTION IN ANDHRA PRADESH**

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Abbreviations

AP	Andhra Pradesh
APSSCA	Andhra Pradesh State Seed Certification Agency
BT Cotton	Bacillus Thuringiensis cotton
CRS	Catholic Relief Services
CMS	<i>Cytoplasmic genetic Male Sterility</i>
GM Seeds	Genetically Modified seeds
HLL	Hindustan Lever Limited
ICN	India Committee of the Netherlands
ILO- IPEC	International Labour Organisation- International Programme for Elimination of Child Labour
LITDS	Layola Integrated Tribal Development Society
MAHYCO	Maharashtra Hybrid Seeds Company
MMB	Mahyco-Monsanto Biotech Limited
MNCs	Multinational Companies
MVF	Mamidipudi Venkatarangaiah Foundation
NGO	Non Governmental Organisation
SHECS	Sri Hanumantharaya Educational Charitable Society
UNDP	United Nations Development Programme

Introduction

A new system of employing female children as `bonded labourers'¹ has come into practice on hybrid cottonseed farms in south India in recent years. Local seed farmers, who cultivate hybrid cottonseeds for national and Multinational Seed Companies, secure the labour of girls by offering loans to their parents in advance of cultivation, compelling the girls to work at the terms set by the employer for the entire season, and, in practice, for several years. These girls work long days, are paid very little, are deprived of an education and are exposed for long periods to dangerous agricultural chemicals.

The introduction of hybrid cottonseeds in the early 1970s has brought significant changes in the quantity and quality of cotton production in India. It has not only contributed to the rise in productivity and quality of cotton, but has also helped to generate substantial amount of additional employment in the agricultural sector. Despite its positive contribution, hybrid cottonseed production gave rise to new forms of labour exploitation which involves the employment of female children as bonded labour and large scale exploitation of them. An important feature of hybrid cottonseed production is that it is highly labour intensive and female children are employed in most of its operations.

What distinguishes child labour in cottonseed production from other industries which employ child labour is that it involves relatively large numbers and female child labour constitutes majority of the total labour force. It is estimated that nearly 450,000 children, in the age group of 6 to 14 years, are employed in cottonseed fields in India, in which Andhra Pradesh alone account for about 247,800². This figure surpasses the total number of children employed in industries such as carpet, glass bangles, diamond polishing gem

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¹ In India, traditional forms of bonded labour in agriculture have been historically largely associated with men and boys, with instances of women, especially girls, working as bonded labourers being relatively rare (see Marla, 1981:20-22 and Patnaik and Dingwaney, 1985:259). In his report, Marla estimates the population of the bonded labourers in the late 1970s in India. According to him, 97.7% of bonded labourers are men and boys, while 2.3% of them are adult women. There are no girls working as bonded labourers.

² The estimates of total number of children working in cottonseed farms are for the year 2000-2001. The methodology adapted for estimating the total number of child labour working in cottonseed fields is discussed in section two.

polishing and limestone put together in India. Moreover child labour in these industries does not exceed 25%, with a majority of them being boys.³

Though hybrids are used in cotton cultivation all over the country, hybrid seed production is concentrated in South India, particularly in the Telangana and Rayalaseema regions of Andhra Pradesh, which alone account for about 65 % of the seed production in India.

The exploitation of child labour in cottonseed farms is linked to larger market forces. Several large-scale national and multinational seed companies who produce and market the seeds have involved themselves in subtle ways in perpetuating the problem of child labour. The economic relationship behind this abuse is multi-tiered and complex, which masks legal and social responsibility.

Currently there are about 200 seed companies involved in production and marketing of hybrid cottonseeds in India, including several multinational companies (MNCs) like Unilever, Monsanto, Syngenta, Advanta, Bayer and Emergent Genetics. MNCs are operating their seed business activities through their own subsidiary companies in India or joint ventures and collaborations with local Indian companies. The names of Indian subsidiaries or joint venture companies of above mentioned MNCs are- Hindustan Lever Limited (for Unilever Plc), Syngenta India (for Syngenta AG) Advanta India (for Advanta BV) Monsanto India and Mahyco (for Monsanto), Proagro (for Bayer) and Mahendra Hybrid Seeds (for Emergent Genetics)⁴. In March 2002 Hindustan Lever Limited (HLL) transferred its seed business to a subsidiary company called `Paras Extra Growth Seeds` and formed a joint venture partnership with Emergent Genetics. HLL sold 74% of its share in Paras Extra Growth Seeds to Emergent Genetics.

The role of MNCs in cottonseed business has increased significantly in recent years due to various trade liberalization policies introduced by the government after 1991. The recent approval of government of India in April 2002 for introducing BT (**Bacillus Thuringiensis**) cotton in Indian market is expected to bring far reaching changes in terms of greater control of MNCs, which have patent rights over genetically modified technology, over Indian seed industry in near future.

Though all the MNCs mentioned above claim that they are committed to highest standards of socially responsible corporate behaviour their activities in the area of cottonseed business in India are certainly not in tune with their claims. Though they are not directly

³ A recent study has estimated the total number of child labour employed in carpet industry as 1,15,000, diamond polishing 1,50,000, gem polishing 2,500 and the glass bangles between 9,428 to 11,126. The figures for Carpet, Diamond polishing, Gem Polishing and Glass bangles are taken from a book `Economics of Child Labour in Hazardous Industries of India` edited by Richard Anker, Sandhya Barge, S.Rajagopal and MP Joseph (1998).

⁴ A brief profile of MNCs involved in cottonseed business in India is presented in section three.

involved in employing child labour their business strategies and profit motives encouraging the environment which supports the practices of child labour in a big way. The present study is an attempt to examine the linkages between multinational seed companies and local seed producers and role of MNCs in perpetuating the problem of child labour in hybrid cottonseed farms in AP.

Objectives of the study

- To explore the nature of linkages between multinational seed companies and local seed producers who employ children in production of hybrid cottonseeds in Andhra Pradesh.
- To estimate the number of child labour employed in cottonseed farms producing and supplying seed to multinational seed companies
- To examine the trends in employment of child labour in cottonseed farms since 1990.
- To examine the response from MNCs to the problem of child labour in cottonseed farms

Methodology

The data used in this study are drawn from both primary and secondary source material. The data on nature of work in cottonseed farms, division of labour, terms and conditions of employment, socio-economic background of children etc; are partly drawn from author's previous studies (Venkateswarlu, D, 1998, 2001, 2001a)⁵. This information is supplemented with a fresh field survey conducted for the purpose of this study on working conditions of children in 22 seed farms in five mandals namely, Sanjamala, Nandyala, Gadval, Dharur, Maktakal in Mahaboobnagar and Kurnool districts which are producing seed for MNCs like Hindustan Lever, Syngenta, Mahyco, Advantha and Proagro⁶. The field survey was conducted during the months of December 2001 and January 2002. Of the total 22 seed farms 12 are producing seeds for HLL, three each for Syngenta and Mahyco and two each for Proagro and Advanta.

The estimates of area under hybrid cottonseed cultivation, business relationship between seed companies and local seed farmers are based on the primary data collected from various sources such as government reports, information provided by seed companies, interviews with representatives of companies, seed organisers and seed producers.

⁵ 1) Venkateswarlu, D (1998) `Pattitotalalo Balikala Vetti Chakiri (in Telugu) Mamidipudi Venkatarangaiah Foundation, Secunderabad, 2) Venkateswarlu, D (2001) `Seeds of Bondage : Female Child Bonded Labour in Hybrid Cottonseed Production in Andhra Pradesh` Business and Community Foundation and Plan international (India Chapter), and 3) Venkateswarlu, D (2001a) `Multinational Seed Companies and Girl Child Labour in Hybrid Cottonseed Production in Andhra Pradesh` a study commissioned by Catholic Relief Services, Hyderabad. (Unpublished report).

⁶ In Andhra Pradesh mandal is a middle level administrative unit consists of 20- 30 villages. The names of four mandals where field survey was conducted are -

The number of children working in cottonseed farms is estimated on the basis of per acre requirement of number of labourers and children's ratio to the total labour force.

Structure of the report

The report is presented in four sections. The first section briefly describes the nature of work, terms and conditions of employment, age composition and socio- economic background of the children employed in cottonseed farms. Section two provides estimates of area and number of children employed in cottonseed production. It also discusses the role of private seed companies in production and marketing of hybrid cottonseeds. Section three discusses the complex and multi-tier linkages between MNCs and local seed producers who employ child labour for production of hybrid cottonseeds and role of companies in perpetuating child labour. The recent interventions in addressing the problem of child labour and companies response are discussed in the final section.

SECTION-I

Nature of work and terms and conditions of employment

The present section briefly describes the nature of work and terms and conditions of employment in hybrid cottonseed farms, and impact of cottonseed work on education and health of the children. The observations presented in this section are based on the author's previous studies and also on a fresh field survey of working conditions of children in 22 seed farms producing seed for various MNCs in Kurnool and Mahaboobnagar districts in AP conducted for the purpose of this study.

Nature of work

The mating or crossing of two plants or lines of dissimilar genotype are known as hybridization. Hybrids seeds produced through cross pollination will have `hybrid vigor` and can be used for only one crop. Seed has to be replaced every crop season. Hybrid seed production in a self pollinated crop like cotton is a difficult task, especially when a large quantity is to be produced for commercial production. Unlike other hybrid seeds like paddy and jowar, in cottonseed, cross pollination work has to be done manually. Each individual flower bud has to be emasculated and pollinated by hand by a large labour force. Doak's method of emasculation of the flower bud is used. This method involves the removal of bracts first by hand, and then the petals, along with the entire anther-sac whorl, with the nail of the thumb, without damaging the stigma, style or ovary. Crossing needs to be done as soon as the flowers blossom before the female flowers bear fruit (and consequently produce non-hybridised or `fake` seeds).

Labour and capital intensive

Hybrid cottonseed production is a highly labour and capital intensive activity. It requires about 10 times more labour and four and a half times more capital when compared to the commercial cotton crop. Commercial cotton requires about Rs 12,000 to 15,000 per acre whereas seed cotton requires about Rs.50,000 to 60,000. Ploughing, sowing, intercultivation, application of fertilisers and pesticides, cross pollination and harvesting are important activities in cottonseed cultivation. Generally the crop season starts in the month of May or June and continues till January or February of the subsequent year. In cottonseed production cross pollination (emasculation and pollination) work which lasts about four months is done manually. Cross-pollination alone requires about 90% of the total labour days employed and 45 % of the capital investment. It is estimated that, while nearly 2,200 labour days are required for cultivation of one acre hybrid cottonseed crop, cross-pollination work itself accounts for nearly 2,000 labour days. Other important operations like harvesting requires about 100 labour days (4.5%) and intercultivation 25 labour days (1.1%). Children, mostly girls, are employed for carrying out cross-pollination activity. They are also employed for other activities like sowing, intercultivation and harvesting. The involvement of adult labour is mainly confined to activities like ploughing, sowing and application of fertilisers and pesticides.

Terms and conditions of employment

Hybrid cottonseed production requires assured supply of labour for carrying out various activities, particularly, cross- pollination work. Keeping this in view, the seed producers prefer to have advance agreements with labourers before starting off the seed cultivation. They employ children on long-term contract basis by paying advances /loans to their parents. A Survey of 320 children working in cottonseed farms in 1999-2000 conducted by the author revealed that about 95% of the children were in debt bondage (Venkateswarlu, D 2001). Debt bondage, although generally binding for one crop season only, still manages to extend into years at a time, until the loan is repaid. The survey revealed that most of the children continue to work with the same employers for years together because of debt bondage. This is reflected in the fact that 70% of the children employed in 1999-2000 worked in the same fields as the year before.

Regarding the loans given to the parents of children, one seed producer remarked that *“we need the girls to work in the cottonseed field all through the season. If the children stop coming half way through, we would be at a loss. So we take the agreements from their parents in advance. If they have to abide by the agreement we need to give them some money in advance. If we don't give, there is a danger of them quitting work in the middle and going to work for others.”*

The wage rates are fixed for the whole season at the time of agreement itself. The wages paid to these children are quite low compared to adult wages. The wage rates vary from area to area depending upon the scarcity of labour. In some areas wage rates are fixed on daily basis and the rate per day is fixed in advance for the whole season. In some areas (Nandyala, Koilkuntla, Allagadda, Gadwal etc), the wage rates are fixed on monthly basis. The wage amount will be deducted from the advances/loans. On average children are paid about Rs 18 per day which is about 30% less than the adult female and 55% less than the adult male wage rates in the market. The agreement is vague regarding working hours because the cottonseed farmers want to keep open the option of calling the children very early or keeping them late whenever necessary. Local children generally work for 9 to 9.5 hours per day and during winter when there is more work to be done, they work for 11 to 12 hours. In case of migrant children, they are under the complete control of employers and generally work for 12-13 hours per day.

Children working in cottonseed farms are two types: local and migrant children. In most of the areas, employers recruit children from the same village or adjacent villages by contacting the parents of the children directly and make agreements with them. However, migrant children - who are brought from other areas specifically for this work - form an important segment of labour force about 50% in some areas like Koilkuntla, Sanjamala and Nandyala of Kurnool district, where seed production is highly concentrated and the availability of local labour is insufficient for the entire work. To recruit the migrant children,

seed farmers mostly depend upon the middlemen called `labour organisers` who organise the labour for them. Labour organisers mediate between seed farmers and parents of the children. It is the responsibility of seed farmer to provide accommodation and food to these migrant children. Migrant children are put in labour camps (a place where migrant children stay) and are given food. The children who are brought in this way need to stay in these camps organised by the employers and work in the fields throughout the day. They generally work 12-13 hours per day.

Inducements to extract more work from children

In order to extract more work from children employers are resorting to new techniques. One way to encourage children to work more intensively is to offer them small inducements, e.g. chocolate, biscuits, or snacks to encourage them to work harder, or to conduct competitions for fast work with the prize being a ribbon or bindi. Twice a month, children are taken to the cinema at the employers' expense. To get even more work done at the end of the day, the producers might show a video, and get the children to work while watching it.

Impact on education and health

The employment of children in cottonseed work has an adverse impact on literacy and health of children. About 60% of the children working in cottonseed fields are school dropouts. They went to school for a few years and dropped out to work in cottonseed fields. 29% of them never attended the school. Seed producers extend loans to parents of the children at a very crucial time of summer, when work is not available in the village and when they are most likely to face financial problems. Parents feel pressurised to send their daughters for work in the cottonseed fields in order to respect the agreement settled earlier in the season.

Working in cottonseed fields also has important health implications for the children involved. The use of pesticides is very high in commercial cotton cultivation (accounting for nearly 55% of the total pesticide consumption in India). Children working in the cottonseed fields are directly exposed to poisonous pesticides like Endosulphan, Monocrotophos, Cypermethrin and Mythomyl for prolonged periods. When doing cross-pollination work they stand among cotton plants which reach up to their shoulders and bend over them as the children identify flowers ready for pollination. In ordinary cotton production, in order to avoid exposure to pesticides, no work is done on the days when pesticides are sprayed. But in cottonseed cultivation cross-pollination work is carried out even during the days when pesticides are sprayed in the fields. Hence compared to workers in ordinary cotton fields, the children working in the cottonseed fields are exposed more directly to pesticides and are exposed for longer periods of time. Their exposure to Endosulphan, which is an organochlorine, affects their nervous system and the symptoms are precisely what children working in cottonseed fields often complain of: headaches, weakness, disorientation, convulsions and respiratory problems. In the absence of long term

monitoring of the health of children, there is no way of assessing the permanent damage such exposure has on the health of these children.

Survey of farms producing seed for MNCs

The observations presented below are based on a survey of children working in 22 seed farms in Mahaboobnagar and Kurnool districts which are producing hybrid cottonseeds for the multinational corporations namely, Hindustan Lever, Syngenta, Mahyco/Monsanto, Advanta and Proagro. The survey was conducted during the months of December 2001 and January 2002. Of the total 22 farms 12 are producing seeds for HLL, three each for Syngenta and Mahyco-Monsanto and two each for Proagro and Advanta.

- The total area under these 22 seed farms is 52 acres and the average farm size is 2.36 acres.
- About 90 % of the workers engaged in these farms are hired labour. Family labour constitutes only 10% of the total labour force.
- A total of 486 children are working in these farms. On average about 9.35 children are engaged for cultivation of one acre of seed production.
- Children, in the age group of 6-14 years, constitute about 88% of total labour force. Adult labour account for only 12% of the total labour force. Of the total child labour population girls account for 78%.
- Most of the children employed in cottonseed farms are in debt bondage. They are recruited by the farmers on long-term contract basis (the contract is for entire crop season) by giving loans/advances to their parents. The average advance/loan amount paid against each child is Rs 1500. About 90% children employed in these farms are recruited through this method. Though the initial agreement between the farmer and parent of the child is for only one crop season it is observed that in most cases the agreements are extended for later crop seasons through additional loans. 68% of the children currently employed were also worked in the same fields last year, indicating their parents' continued indebtedness to the farmers.
- The socio economic background of the families of working children indicates that most of them (87%) have come from lower castes like tribal people, dalits (so-called 'casteless' or "untouchables") and other backward castes. Marginal farmers and poor agricultural labouring families account for 65% of the total families.
- The socio economic background of seed farmers indicates that a majority of them are rich farmers and also belong to upper castes. 75% of the seed farmers are rich farmers who mostly depend upon outside labour. About 35% of them are migrant farmers belonging to Coastal region of Andhra Pradesh who have come to Kurnool and Mahaboobnagar districts for cultivation of cottonseeds mainly because of the availability of cheap labour in these districts.
- Most of the seed farmers (74%) are sending their own children to school and are not engaging them in production.

- The wage rates and working hours of children in these farms indicate that children are made to work long hours (10-13 hours per day) and are paid lower wages than adults. On average children are paid about 30% less than the adult female and 55% less than the adult male wage rate in the market.
- About 60% of the children have discontinued their school education in the middle. They went to school for few years and discontinued to work in the cottonseed fields. The remaining children never attended school.
- In Koilkuntla and Sanjamal mandals of Kurnool district where seed production is highly concentrated seed farmers are also engaging migrant child labour in their fields. They bring children from faraway places (30-100 kilometers) by paying loans/advances to their parents. Children stay with the seed farmers through out the season. It is the responsibility seed farmer to provide accommodation and boarding facilities to these children. Migrant children are put in camps, a place where a group of 10-30 children are given accommodation and given food. The working conditions of migrant children are far worse than the local children. There are no specified working hours for them. They go to fields in the early hours about 5 am and work till evening 6-7 pm. After returning from the fields also they are made do few hours of work at employers' house. Of the total 480 children surveyed 135 of them are migrant children.

Case study of a migrant child labour (Narasamma (12 year)

Narasamma, a 12 year old scheduled caste girl, has been working in the cottonseed fields of an employer in Alavakonda village in Sanjamala mandal (Kurnool district) for last three years. Her employer is a local farmer who produces ` Brahma` variety of hybrid cottonseeds in two acres for a reputed multinational seed company (Hindustan Lever Limited)

She came from a remote village in Prakasam district. Her native village is about 100 Km away from her work place. Though her parents own three acres of dry land the income they get from their land is insufficient. They also work as agricultural labourers. Narasamma had to discontinue her studies after third class to pay back a loan of Rs. 2000 taken by her father from a middlemen who arranges labour for cottonseed farmers. She joined in cottonseed fields in 1998. For first crop season (July 1998-Dec1998) she was paid Rs. 450 per month and now she gets Rs 800. Every year during work season she comes to Alavakonda village along with other children from her native village to work in cottonseed fields. She stays with the employer about 5-6 months (July-December). Employer provides her accommodation and food during her stay with him. She stays in the employer's cattle shed, where all other migrant children are put up. The cattle shed is a small room originally constructed for keeping cattle. It does not have proper ventilation and the floor is dirty without proper cover. Part of this room is covered with cattle fodder. As employer does not have other place to accommodation migrant children he keeps them in this room. During the season when children are accommodated in this room he shifts the accommodation of his cattle to open place in front of this room.

Her daily routine starts with waking up early in the morning at 5 a.m. and getting ready by 6 a.m. to go to the fields. From 6.30 a.m. in the morning to till 7 p.m. in the evening she is in the fields

doing various sorts of work. She is engaged in cross pollination till 12 am. Around 8-8.30 am 15 - 20 minutes break is given for taking food. From 12am to 2 p.m. she is engaged in other works like weeding, picking up cotton kappas, carrying water for pesticide application etc.(pollination and emasculation works are done in specific timings. Pollination work is done in the morning hours preferably before 12 am and emasculation after 3 pm. During this gap children are entrusted with other works)_ From 2 to 3 pm. one hour break is given for taking lunch, rest and playing with other children. From 3 to 7 p.m. she is engaged in emasculation work. She comes back home at 7.30 p.m. She is free from 7.30 to 8.30 p.m. Takes food at 8.30 PM and spends about an hour or so in the employer's house watching TV. During harvesting season, while watching TV she also does work like separating cotton 'kappas'.

Recalling the health problems she had faced during the last working season Narasamma stated that ` I was ill for two times. First time I had heavy fever with cold, headache and vomiting because I worked during rain and got wet. That day three of my colleagues were absent and we had to do their work also. To finish the cross-pollination for that day we were requested to work even raining time and also late hours. Because of that I got fever the next day. It started with cold and headache and finally resulted in heavy fever. I did not go to doctor. I thought it was not that serious to consult the doctor. My employer brought some medicines for me and I took it. I took two days rest and after that I was OK and went back to work. The second time I got severe headache and felt giddiness which was not normal while working in the field immediately after spraying pesticides. I complained to my employer. He suggested her to go home (his residence) and take rest for that day. I went home and took rest for that day. In the evening my employer asked me if I want any medicine but I said no. I resumed my work from the next day`.

SECTION-II

Growth of hybrid cottonseed production- role of private seed industry

India is the first country to introduce hybrid cottonseeds for commercial cultivation. The public sector in India has played a crucial role in developing and propagating the use of hybrid seeds. The world first cotton hybrid H4 was introduced in 1970 by the government Cotton Research Station situated at Surat in the state of Gujarat. This hybrid cotton by virtue of its high yield potential and adaptability became popular among the farmers initially in Gujarat and later on in states of Andhra Pradesh, Maharashtra, Karnataka and Tamilnadu. Since 1970, a number of new hybrids have come up and the use of hybrids has been rapidly increasing.

Cotton is a major commercial crop in India, occupying about 9 million hectares, with about 40% of this land is currently covered by hybrid seeds. India accounts for 21 percent of world's total cotton area (largest in the world) and 12 percent of global cotton production. Among the cotton growing states Maharashtra takes the lead with about 35% of total cropped area followed by Gujarat and Andhra Pradesh. Andhra Pradesh accounts for nearly 900,000 hectares of land - with about 65.0% of this land currently covered by hybrids.

Andhra Pradesh- seed capital of India

Though hybrid seeds are used all over the country hybrid seed production is concentrated in Andhra Pradesh. During the year 1999-2000, nearly 90% of the hybrid seeds of Maize and Jowar, 70 % of hybrid Bajra and 65% of hybrid cottonseeds marketed in the country were produced in Andhra Pradesh. (see table 1)

Table: 1 Quantity of Hybrid Seed Produced in Andhra Pradesh during 1999-2000

Crop	Total quantity of seed produced in AP (in quintals)	% share of AP to total seed marketed in India
Maize	7,30,000	90
Jowar	1,68,000	90
Bajra	2,01,000	70
Fodder Jowar	2,20,000	95
Sunflower	15,000	50
Paddy	15,000	90
Cotton	57,000	65
Total	14,06,000	

Source: Yogeswara Rao.Y (2001) ` An estimate of the production of hybrid seeds of different crops (public and private companies) in Andhra Pradesh` Seedsmen Association, Andhra Pradesh Souvenir.

In AP hybrid cottonseed production is highly concentrated in three districts Mahaboobnagar, Kurnool and Ranga Reddy which alone account for nearly 95% of the total production in the state. The primary reason for concentration is availability of cheap labour and also suitability of agro climatic conditions. About 60 % of the seed produced in AP is exported to other states and countries⁷.

Public and private hybrids

The production and marketing of hybrid seeds is carried out by both public and private seed agencies. The public sector includes State Seed Corporations of the cotton growing states and State Farms Corporation of India (SFCl). Hybrids are of two types - public and private. Public hybrids like H4, JKH1, Savitha, NHH 44 are released by state agencies (i.e., Agricultural Universities, research centers). Private hybrids (also called research or proprietary hybrids) like Paras Brahma (released by Hindustan Lever Limited), Mech 12 Bt, Mech 162 BT, Mech 162 (BT cotton hybrids released by Mahyco-Monsanto) Sandocot (Syngenta) banny (Nuzevedu seeds) RCH2 (Raasi seeds) are developed by private seed companies through their own research.

State Seed Corporations produce and market only public hybrids. The hybrids developed by public sector agencies are registered and notified to enable certification by State Seed Certification Agencies. Private seed companies produce and market both public bred hybrids as well as hybrids developed by them. The foundation seeds of public hybrids are made available by the government for any one (both public and private seed companies) who wants to multiply them and market to the farmers. In contrast, the proprietary or research hybrids are developed by private companies themselves and they alone will have patent rights over production and marketing of that seed.

Currently private seed companies contribute about 80% hybrid cottonseed produced and marketed in the country. Though public sector Seed Corporations in other states are playing an important role, in production and marketing of hybrid cottonseed, yet in AP their role is negligible. In AP the share of State Seed Development Corporation is about only one percent⁸.

The growth of hybrid cottonseed production in AP state is not only linked to increasing demand for hybrid seeds within the state but also growing demand for these seeds in national and international markets. As the demand for hybrid cottonseeds is growing within

⁷ Seedsmen Association of Andhra Pradesh, 7th Annual Report, 2002

⁸ In the year 2000-2001 AP State Seed Development Corporation has taken up hybrid cottonseed production in about 200 acres only.

and outside the state the area under seed production also has increased significantly in recent years.

Table: 2 Growth in area and quantity of hybrid cottonseed produced in Andhra Pradesh during 1990-91 and 2000-2001

Year	Private hybrids		Public hybrids	
	Area	Quantity of seed	Area	Quantity of seed
1990-91	1000	1800	5246	9380
2000-2001	18000	35000	6783	15756

Source: The data on public hybrids is taken from annual reports (1990-91 and 2000-2001) of Andhra Pradesh State Seed Certification Agency. The data on private hybrids is collected from the interviews with representatives of Seedsmen Association of Andhra Pradesh.

Table 3: Extent of area and quantity of Hybrid cottonseeds (public varieties) certified by the AP state seed certification Agency

Year	Area certified (acres)	Quantity certified (quintals)
1990-91	5246	9387
1991-92	5997	12395
1992-93	4349	9195
1993-94	4186	10636
1994-95	8750	19557
1995-96	18184	25950
1996-97	15058	30336
1997-98	12343	36044
1998-99	13791	24753
1999-2000	17502	32000
2000-2001	6783	15756

Source: compiled from annual reports of AP State Seed Certification Agency

Shift from public to private hybrids

Though the area under both public and private hybrids have registered significant increase during 1990-91 and 2000-2001, there is clear shift from public to private hybrids. The area under private hybrids has increased about 18 times during 1990-91 and 2000-2001 (from 1000 acres in 1990-91 to 18000 acres in 2000-2001). The area under public hybrids also registered significant increase about three and half times during 1990-91 and 1999-2000 (from 5160 to 17502 acres) but shown sudden decline in 2000-2001. The reasons for shift

from public to private hybrids are many fold. Private companies in recent years have started showing greater interest in developing their own hybrids than relying on public hybrids because the profit margins are very high in private hybrids. Companies are at liberty to fix the prices for their own hybrids. The entry of multinational seed companies who have well equipped research facilities and able to invest large sums of money on developing new hybrids is another factor which has contributed for shift from public to private hybrids.

Trends in employment of child labour in cottonseed production

As already explained in section one the production of cottonseed is highly labour intensive and children are employed in most of its operations. The number of child labour in cottonseed production is linked to the extent of area under cottonseed production. As the demand for hybrid cottonseeds has been growing the area under seed production and the number of child labour employed have also been increasing.

The estimates of total number of children working in cottonseed farms presented below are drawn on the basis of per acre requirement of number of labourers to do different activities in cottonseed cultivation and children's ratio to the total labour force. Various field studies conducted by the author in different parts of Andhra Pradesh have indicated that on average ten children are employed for cultivation of an acre of cottonseed. It is estimated that for acre about 10 persons are required every day for doing cross pollination activity, which last about four months, in cottonseed fields. Except in few areas, cross pollination activity is exclusively done by children. Children are also employed in other operations like sowing, intercultivation and harvesting. Assuming that an average ten children are employed for doing one acre of cottonseed cultivation, the total number of children employed in cottonseed fields in Andhra Pradesh is estimated for different years. The trend indicates that there has been a significant rise in the total number of child labour employed in cottonseed production during 1990s. The number of child labour increased from 61600 in 1990-91 to 300000 in 1999-2000. Compared to 1999-2000 year, the total number of number of child labour employed in cottonseed production declined due to fall in the extent of area under production in 2000-2001 year.

Table: 4 Approximate area and number of children employed in hybrid cottonseed farms in Andhra Pradesh

Year	Total area under production (acres)	Total number of children employed
1990-91	6160	61600
1995-96	21880	218800
1998-99	28000	280000
1999-2000	30000	300000

2000-2001	24783	247830
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Role of Multinational Seed Companies

The increase in the demand for hybrid seeds in recent years has resulted in the proliferation of private seed companies, which produce and sell hybrid seeds. Developing, producing and marketing seeds, such as hybrid cottonseeds, is a major business for several companies in India including multinational corporations like Hindustan Lever Limited, Monsanto, Syngenta, Advanta and Proagro. Currently there are about 100 seed companies including the multinational companies mentioned above are involved in cottonseed production and marketing in Andhra Pradesh.

Various trade liberalisation policies introduced by the government of India since 1991 have encouraged the large-scale multinational seed companies to enter into Indian seed market in a big way. The role of multinational seed companies in production and marketing of hybrid cottonseeds is rapidly increasing. It is estimated that in the year 2000-2001, five multinational seed companies i.e. Syngenta, Hindustan Lever, Advanta, Proagro and Mahyco-Monsanto accounted for nearly 21.6% (5350 acres out of 24783) of the total area under hybrid cottonseed production in Andhra Pradesh. The number of children employed in farms producing and supplying seed for these MNCs is estimated to be around 53500. Out of 53500 children, HLL accounted for 25,500, Syngenta 6,500, Mahyco-Monsanto 17,000, Advanta 3,000 and Proagro 2,000 (see table 5).

Table 5: Approximate area and number of children employed in hybrid cottonseed farms producing seed for Multinational seed companies in AP, 2000-2001

Name of seed company	Extent of area under hybrid cottonseed farms (acres)	No of children employed in seed production
Hindustan Lever Ltd.	2500	25000
Syngenta	650	6500
Advanta	300	3000
Mahyco- Monsanto	1700	17000
Proagro	200	2000
Total	5350	53500

The control of MNCs over Indian seed business is expected to grow further in coming years because of the recent decision taken by the government for allowing companies to market genetically modified hybrid cottonseeds. Mahyco - Monsanto Biotech, a 50: 50

joint venture company formed by Monsanto and Mahyco, has received permission to sell BT cotton hybrids in April 2002 and it has already sold all the seed available with that company (about 100,000 packets) during this year. Keeping the good response from farmers this year it has made arrangements for selling about 700,000 packets of BT cottonseed in the coming season. Monsanto which has patent rights over BT gene has also sub-licensed the Bollgard gene to five other leading seed companies — Rasi, Ajeet, Krishi Dhan, Ankur and Emergent Genetics. Just like Mahyco, all these companies would be back-crossing Monsanto's Bollgard varieties with their own hybrids.

Brief profile of MNCs involved in cottonseed production in AP

Syngenta India

Syngenta India, an Indian subsidiary of Switzerland based Syngenta AG, is one of the leading seed company in India. Syngenta AG, which was formed in 1999 through the merger of agro-chemical and seed divisions of two leading companies Novartis AG and Astra Zeneca, is the third largest seed company in the world. Syngenta India has a turnover of Rs 4,280 millions. Novartis India whose agro-chemical and seed business was merged with Syngenta India was itself an outfit of a merger took place between two Switzerland based companies i.e Sandoz and Hindustan Ciba in 1996.

Syngenta India is involved in developing, producing and marketing of variety of hybrid seeds of cotton, maize, jowar, vegetables, etc. In hybrid cottonseed business Syngenta accounts for about 5% of market share in India. It produces about 3,000 quintals of cottonseed annually and production centers are located in Andhra Pradesh, Maharashtra, Gujarat and Karnataka states. 600 quintals or 20% of the company's production is located in Andhra Pradesh. Syngenta is involved in production and marketing of both public and private research hybrids. Syngenta's own cotton hybrid `Sandocot 35` is one among the popular private hybrid cottonseeds in the country.

Hindustan Lever Limited

Hindustan Lever Limited (HLL), an Indian subsidiary of Anglo-Dutch multinational company, Unilever Plc, was formed in 1956 by a merger of three Unilever subsidiary companies in India. Since then the company has consolidated its position in the Indian market significantly and today it has the distinction of being India's largest FMCG company with an annual turnover of Rs. 114,000 millions. The parental company Unilever holds 51.6% stakes in HLL. HLL's business sprawls from personal and household care products to foods, beverages, specialty chemicals, animal feeds and hybrid seeds.

Joint venture with Emergent Genetics

Seed business is not a core activity of HLL. As part of its long-term business strategy, HLL has recently (March 2002) transferred its seed business to its subsidiary `Paras Extra

Growth Seed Ltd⁹ and formed a joint venture partnership with Emergent Genetics¹⁰, a US-based biotechnology company for the seeds business. HLL now holds 26% share in Paras Extra Growth Seeds and remaining 74% share is sold to Emergent Genetics.

HLL seed business- Hybrid cotton

HLL's seeds business, which has an annual turnover of around Rs. 950 millions, is engaged in the production, marketing and distribution of a variety of hybrid seeds of cotton, maize, jowar, vegetables, etc¹¹. Though HLL has been involved in hybrid seed business since 1980s, it made substantial improvement in volumes, turnover and profits in the late 1990s after it expanded its cottonseed business by introducing a new cotton hybrid in the market by name `Brahma` in 1997¹². The HLL cottonseed, `Brahma`, met with remarkable success and became quite popular among the farming community, particularly in the southern states of India.

The success of `Brahma` cottonseed placed the HLL as one among the top five private seed companies in India and also the second largest company in production and marketing of hybrid cottonseed in Andhra Pradesh. Currently hybrid cottonseed alone accounts for about 25% of its total seed business. Since 1997 the demand for `Brahma` cottonseed has been growing steadily and to meet the market demand HLL has been expanding its area under cottonseed production. The area under `Brahma` cottonseed has increased fourfold during 1996-97 and 2001-2002.¹³ The demand for `Brahma` cottonseed in Andhra Pradesh market is such that the company was at times unable to meet the requirements of farmers and AP Government had to involve its Agricultural department machinery to oversee the proper distribution of this seed to the farmers¹⁴.

Shift from public to private research hybrids

HLL is involved in production and marketing of both public and proprietary (research hybrids) hybrid seeds. Brahma cottonseed is a private research hybrid. This seed was actually developed by a Andhra Pradesh based private seed company called `Bharati seeds` and HLL tied up with this company for production and marketing of this seed. In

⁹ Since its parent Unilever is no longer in seeds research, HLL's seeds business has no access to latest international technologies including biotechnology. But to secure the long-term future of the seeds business, it is necessary to ensure "uninterrupted flow of technology and know-how from a technology partner" under a technology collaboration agreement or under a joint venture agreement, HLL said in a notice to the Bombay Stock Exchange (BSE). (The Hindu Business Line 6-12-2001)

¹⁰ Emergent Genetics is a US-based private equity investment firm involved in seed business. It has recently purchased Mahendra Hybrid Seeds, one of the largest hybrid seeds companies in India with strengths in cotton. (Hindu Business Line 3-1-2001)

¹¹ Hindu Business Line, 6-12-2001

¹² `Three new specialty chemicals factories set up, hybrid cottonseed receives excellent response` (HLL web site)

¹³ From about 400 acres in 1996-97 to 1600 acres in 2001-2002. In addition of Brahma HLL is also involved in production and marketing of other cotton hybrids like Krishna, Lakhmi, NHH 44 etc (interview with HLL representative, 22-1-2002)

¹⁴ `cottonseed firms draw flak at meet` The Hindu, May 18

addition to private research hybrids like Brahma, Krishna, HLL is also involved in production and marketing of public hybrids like NHH 44, Savitha, PKYV. Prior to 1997, HLL was more involved in production and marketing of public cotton hybrids. Since 1997 it has shifted its business focus from public to private hybrids. At present the public cotton hybrids account for only a small component of about 10% of its total cottonseed business.

HLL's cottonseed production activity is concentrated in Andhra Pradesh particularly in Kurnool and Mahaboobnagar districts. About 70% of the cottonseed produced by HLL in India comes from Kurnool and Mahaboobnagar districts of AP. The remaining production is done in Gujarat and Karnataka states. The seeds produced in Andhra Pradesh are not only marketed in that state but also exported to other states in India.

Monsanto and Mahyco

Monsanto, a US based Multinational company, is the second largest seed company in the world which has patent rights over BT(Bacillus Thuringiensis) and terminator gene technology. It has recently merged with Pharmacia Corporation, a leading global pharmaceutical company. Though Monsanto has 50 years of presence in India till recently its activities were mainly confined to pesticide business.

In 1997 Monsanto has entered into collaboration with Mahyco to introduce BT. cotton in India. It has purchased 26% of share in Mahyco and also established a separate 50:50 joint venture company with Mahyco called Mahyco-Monsanto Biotech Limited (MMB). Mahyco is one of the oldest and also largest seed company in India which has country-wide production and marketing network. It has been involved in production and marketing of both public and private hybrids since early 1970s.

Mahyco-Monsanto Biotech Limited is the first company to receive permission from government of India to sell Genetically Modified (GM) cottonseeds. This company is involved in conducting of BT cotton trails in India since 1997. It has developed three Bt hybrid cottons i.e Mech 12 Bt, Mech 162 Bt and Mech 184 Bt (introducing Monsanto Bt gene into Mahyco's own hybrid cottonseeds). After several years of trails Indian government has given permission to this company in April 2002 to sell BT hybrid cottons.

The control of Monsanto in cottonseed business in India is expected to grow further in coming years. The Bollgard gene has not only been incorporated in Mahyco's cotton hybrid seeds — Mech-12, Mech-162 and Mech-184, which were cleared for commercial cultivation in 2002 — but is also set to be back-crossed with hybrids evolved by other companies.

MMB has so far sub-licensed the Bollgard gene to five other leading seed companies — Rasi, Ajeet, Krishi Dhan, Ankur and Emergent Genetics. MMB is presently 'in talks' with Proagro Seeds as well for collaboration in BT cotton technology.

According to Dr M.K. Sharma, Managing Director of MMB, "we would like a 30-40 per cent share in the hybrid cottonseeds market, i.e. 3-4 million packets". And this would be achieved not just through Mahyco's Bt cotton, but also by incorporating the Bollgard gene into the hybrids of Ankur, Rasi, Ajeet, Krishi Dhan, HLL, etc. Just like Mahyco, all these companies would be back-crossing Monsanto's Bollgard varieties with their own hybrids.

In 2002 kharif season, MMB has sold 1.05 lakh packets of Bt cottonseeds. Given that each packet of 450 grams costs Rs 1,600 (farmer's price), it means that the BT cotton has generated business worth nearly Rs 170 million in its very first year of commercial planting. For kharif 2003, MMB expects sales to touch 6-7 lakh packets and in coming five years about 3-4 million packets.

Proagro Seeds

The Proagro Group of companies comprises Proagro Seed Company Ltd., Proagro-PGS India Ltd., Hybrid Rice International (HRI) , and MISR Hytech. With the exception of the Egypt-based MISR Hytech, the Proagro group companies are headquartered in New Delhi, India. Proagro group is one among the top five leading private seed companies in India.

Proagro Seeds Company ranked first in the production of coarse seeds like corn, millet and forage sorghum, and second in the production of sunflower and grain sorghum. It is also involved in production and marketing of hybrid cottonseeds. Proagro-PGS which is a joint venture founded in 1993 between Proagro Seed Company Ltd. and Plant Genetic Systems (PGS), a subsidiary of AgrEvo specializes in vegetable seeds. Hybrid Rice International (HRI) is the market leader in India in hybrid rice and is active in other important South East Asian markets. MISR Hytech is active in both hybrid vegetables and field crops for the Egyptian, Middle Eastern and North African markets.

The Proagro group of companies are currently owned by Bayer which is one of the world leading agro chemical company based in German. Till 1999, Biogenetic Technologies, a Dutch holding company owned majority stake in the Proagro group companies. In February 1999, Hoechst Schering AgrEvo a German based MNC acquired 100% stake in Biogenetic Technologies a parental company of Proagro group of companies in India. Since then the AgrEvo acquired control over Proagro group. In 1999 December AgroEvo AG merged with Rhone Poulanc AG and formed a new entity called Aventis Crop Science. Bayer purchased the Aventis Crop Science in 2001 for EUR 7.25 billion.

Like other MNCs Proagro is also involved in production and marketing of both public and private hybrids. Its cottonseed production activity is largely concentrated in Andhra Pradesh.

Advanta India Limited

Advanta India Ltd. (formerly ITC Zeneca Ltd.) is the Indian joint venture company of Advanta B.V., which is among top ten seed companies of the world. Advanta B.V was

formed in 1998 by the merger of Astra Zeneca Seeds, U.K. and Vanderhave Seeds of Netherlands. ITC Zeneca was formed in 1994 through a joint venture between ITC, an agribusiness affiliated to British- American Tobacco, and Zeneca (formerly part of British's ICI). Due to restructuring of promoters/shareholders business ITC Zeneca India has changed its name to Advanta India. Advanta India produces and markets a variety of hybrid seeds. It is the marker leader in Sunflower seed business. It is involved in production and marketing of both public and private cotton hybrids. Advanta's cottonseed production activity is concentrated in Kurnool and Mahaboobnagar districts of Andhra Pradesh.

Table 6: Top 10 Seed Companies in the World (Ranked by sales in 2000)

Rank	Company name	Country	Sales in 2000 ((US \$, millions)
1	DuPont (Pioneer)	USA	1938
2	Pharmacia (Monsanto)	USA	1600
3	Syngenta	Switzerland	958
4	Groupe Limagrain	France	622
5	Grupo Pulsar (Seminis)	Mexico	474
6	Advanta	Netherland	373
7	Dow (+Cargill North America)	USA	350
8	KWS AG	Germany	332
9	Delta & Pine Land	USA	301
10	Aventis	France	267

Source: ETC Group (Action Group on Erosion, Technology and Concentration), "Globalization Inc. -- Concentration in Corporate Power: The Unmentioned Agenda" July/August, 2001, available at <http://www.rafi.org>.

Companies claims about social responsibility

All the MNCs mentioned above claim that that they are committed to highest standards of socially responsible corporate behaviour. For instance Unilever, parental company of HLL claims that it is committed to highest standards of corporate social responsibility. Part of Unilever's corporate purpose states that states that *"We believe that to succeed requires the highest standards of corporate behavior towards our employees, consumers and the societies and world in which we live.... This is our road to sustainable, profitable growth for our business and long-term value creation for our shareholders and employees."* Extract from Unilever's Corporate Purpose¹⁵

Regarding the minimum age for employment and child labour, Unilever in its report 'Social Review - Unilever's approach to corporate social responsibility` states that *"Unilever's*

¹⁵ Unilever website : www.unilever.com

policy fully supports the International Labour Organisation Convention on Minimum age and its new Convention 182 banning the worst forms of child labour. Unilever Business Groups around the world regularly assess their operations against this policy and have confirmed compliance. In India for example, we operate a minimum working age policy of 18 years, and contractors and licensed manufacturers are also required to comply with this standard”¹⁶

Regarding corporate social responsibility of its company, Syngenta states that “As an industry leader, Syngenta takes its ethical, social, scientific and environmental responsibilities seriously. The trust and confidence of Syngenta’s shareholders, employees and trading partners, as well as of government and regulatory authorities and the communities in which Syngenta operates, will only be earned and sustained if the company acts, and is seen to act, in accordance with the highest standards of fairness, honesty and integrity.”

In a similar way other MNCs i.e Monsanto, Advanta and Bayer also claim that they are committed to socially responsible business practices. Unilever, Syngenta and Bayer are member companies of the global compact, a joint initiative of the United Nations and private business companies started in 2000, aimed at improving the human rights, social standards and environmental protection.

The activities of these MNCs in the area of cottonseed business in India are certainly not in tune with what they claim about their commitment to socially responsible corporate behaviour. Though they are not directly involved in employing children they have substantial control over entire production process and seed farmers who actually employ children for producing seed for these companies. A large number of children, mainly girls in the age of 6-14 years, are working on the farms, which are producing and supplying hybrid cottonseed for these companies

¹⁶ "Social Review - Unilever's approach to corporate social responsibility". (source Unilever website : www.unilever.com)

SECTION-III

Production of seeds-linkages between companies and seed farmers

Companies including MNCs are clearly linked to child labour, even though they do not themselves employ child labourers. The companies put their labels on the seeds produced by the children's labour. The economic relationship between MNCs and child labour is multi-tiered and complex.

Companies dependence on seed farmers

In order to market large quantities of seed, companies need to multiply the relatively small quantity of foundation seed either developed by them (proprietary or research hybrids) or sourced from public institutions (public hybrids). Public hybrids are developed by government research institutions and are given to any one for multiplication of seeds. Companies are dependent on local seed farmers for multiplication of seeds. The multiplication of seed is done by seed producers at their fields. Since Indian landownership laws do not permit individuals or companies to own large areas of land companies are constrained to have their own farms producing large quantities of seed for their companies. So they depend upon local seed farmers for production of seeds. Most of the companies do not make direct agreements with seed farmers. They operate through intermediaries or middlemen called `seed organizers`

Seed Organiser- link between companies and farmers

Except Advanta which is making production agreements with seed farmers directly in some areas¹⁷, all other MNCs discussed in this report are operating their seed production activities through `seed organizers`. A `seed organizer` is an independent businessman who mediates between company and seed farmer for organising the seed production. The institution of seed organiser is a recent phenomena innovated by the companies as an administrative convenience to deal with large number seed farmers. Prior to 1990s most of the companies were having contacts with seed farmers directly. As the demand for hybrid seeds increased and companies expanded their scale of operation they found it difficult to

¹⁷ Unlike other MNCs, Advanta India is making direct agreements with seed farmers in some areas through the `seed village` approach for production of seeds. In the seed village approach company makes production agreements with individual seed farmers directly avoiding any intermediaries like seed organizers. The seed village approach followed by Advanta starts with a meeting with village elders and leaders. The company offers a scheme to the village farmers under which they will produce its seed from parental- line seeds it supplies. The company offers technical guidance and agrees to buy the whole crop of seed at a predetermined price. It is observed that there is no variation in the procurement price offered by the Advanta to seed farmers who are having direct contact with company (through seed village approach) and farmers who operate through seed organizers.

deal with large number of farmers and started depending upon intermediary institutions like seed organizers.

Contracts between companies and seed organizers- buy back agreements

Companies make production agreements with `seed organisers` with a buy back arrangement of resultant seed. Some of the seed organisers are also the owners of small seed companies who organise seed production for various big companies.

In the agreement between company and seed organiser, the company fixes the target of production for each organiser (type and quantity of seed it wants), the price it will charge for foundation seed it supplies to them, procurement price it will pay to the farmers once organisers collect seed from the farmers and hand over to the company, amount of service charges or commission it will pay for the organisers, quality of seed etc. It is the responsibility of seed organiser to identify the farmers interested in undertaking seed production by accepting the terms and conditions set by the company. Depending upon the production target given to them by the company, organisers decide the extent of area and number of farmers. They make separate agreements with farmers reproducing all the terms and conditions set by the company to them. Companies also advance production capital to the seed organizers to the tune of Rs. 15000- 20000 per acre (about 30-40% of the cost of cultivation).

“Companies will not come into picture in identifying the farmers. They give us targets. We will identify the farmers who are willing to undertake the seed production. Depending upon the target given by the company to us we will decide the extent of area and distribution of area to different farmers. We will make separate agreements with farmers. The agreement between us is almost similar to the kind agreement we make with the companies. We will supply foundation seed to them and inform them about the quality standards set by the company for purchasing the harvested seed. If the company gives us any advance capital we will pass it on to them. After the harvest farmers will deliver the seeds to us and we will pass on the same seed to the company. The company, after quality tests (germination and genetically purity), pays money to us and we in turn pay the farmers as for the agreed price.” says a seed organiser who is arranging seed production for Syngenta¹⁸.

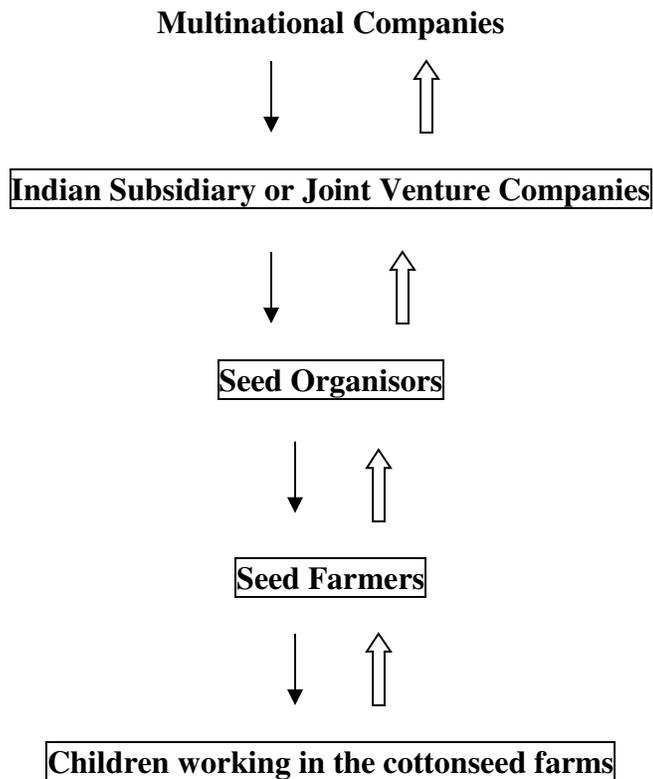
Organisers collect foundation seed from company and supply it to the farmers. Farmers grow the foundation seed in their farm and hand over the harvested seed to organisers. Seed organisers collect harvested seed from farmers and supply to the company. After receiving the seed from organizers, the company will test the quality of seed and if it meets its quality standards then only it will pay money to the organizers. Three types of quality tests are conducted by companies i.e physical, germination and genetical purity of seed. It takes about 3-4 months for the company to complete these tests. After completing these

¹⁸ Interview with Narasimha Reddy (14-1-2001)

tests only the company clear the payments to organisers. It is only after receiving payments from the company, organisers pay back to the farmers. After handing over the seed to the organizers farmers have to wait about 4-5 months for the payments.

It is important to note that in the entire process at no point of time companies makes any direct agreement with farmers either for production or for payments. All the transactions are routed through seed organisers only. Although companies are not directly involved in the production process and making agreements with seed farmers they exerts substantial control over farmers and production process by way of supplying foundation seed, advancing production capital, fixing the procurement prices and quality controls. In addition the company representatives make frequent visits to the farmers' fields to supervise the quality of production.

Cottonseed production – Linkages between MNCs and Child labour



Though it is the seed organisers who make final agreements with farmers they are not independent to decide about the procurement prices to be paid to farmers. The company fixes the procurement price to be paid to the farmers by the seed organisers well in advance. Seed organisers do not have any control over it. They simply get service charge or commission (Rs.15- 20 on each packet of 750 grams weight) from the company. The

seed produced by farmers in their fields is the sole property of the company and either the seed organiser or the seed farmer does not have any right to sell seed in market other than to the company.

How procurement prices are fixed?

Procurement prices paid to the seed farmers are fixed in two ways. With regard to public hybrids a common procurement price is followed by all the companies. Till recently, `Seedsman Association of Andhra Pradesh, an organisation representing the interests of seed companies, used to decide the common procurement price for the public hybrids. Seed farmers had no role at all. Since the year 2000, seed farmers have started demanding that they too should have a role while determining the procurement prices. They have formed their own association called `Seed Growers Association`.

Currently, the prices of public hybrids are fixed through the consultations between the representatives of seed companies and seed growers. It is binding upon all the companies to follow this price. In the year 2001-2002 the procurement price of NHH 44 cotton hybrid was fixed at Rs 180 per 750 grams packet and Rs 220 for Savitha variety. Currently, the Seedsman Association exerts greater control in determining the procurement prices because of its strong organizational base. Unlike Seedsman Association, the Seed Growers Association is not very strong because of unorganised nature of their members and their dependency on companies/ seed organisers for production capital¹⁹.

Though seed farmers have some voice in determining the procurement prices of public hybrids they have absolutely no role in determining the prices for private research hybrids. The concerned companies who own the seed are at liberty to fix their own prices. In 2001-2002 HLL and Syngenta offered Rs. 220 for 750 gram packet for their own seeds `Brahma and Sandocot 35`.

Difference between procurement and market prices: huge profit margins for companies

There is a huge difference between companies' procurement prices and market prices. Table 5 indicates that what companies pay to the farmer for producing the seed is several times less than what they get by selling the same seed in the market. During 2001-2002 the market price of HLL's cottonseed `Brahma` is about four times the procurement price. The company procured the seed from farmers at Rs.290 per kg and sold the same seed in market at Rs. 1100. The market price of Syngenta's cottonseed `Sandocot 35` is about three and half times the procurement price. Compared to HLL and Syngenta the market price of Mahyco-Monsanto's BT.cotton is very high. It sold one Kg of Bt cotton at Rs. 3550.

¹⁹ Interviews with Dr. Yogeswara Rao (former president of AP Seedsman Association, 21-12002) and Sankara Rao (member of AP Seed Growers Association,23-1-2002)

Though companies have a huge profit margin they do not seem to be making any rational calculation about cost of cultivation while fixing the procurement price to be paid to their seed farmers. With the current procurement prices of companies, seed farmers can not afford to pay better wages to the labourers and still earn a reasonable profit. Unless better wages are paid, it is difficult for the farmers to attract adult labour to work in their fields. It is estimated that the farmers (using child labour) are currently incurring about Rs 220 for production of one Kg of cottonseeds (see table 7). The procurement price they are getting from companies is about Rs. 290 per Kg of seeds. After meeting the costs farmers get about Rs. 70 as a profit. About 50% of the production cost i.e. Rs 110, is spent on wages for labourers. As already indicated the wage rates paid to children in cottonseed fields are about 30% less than adult female and 55% less than adult male wages in the market. If farmers have to replace the child labour with adult female labour the cost of labour would increase by 30% and with adult male labour it would increase by 55%.

Seed farmers have stated two main reasons for their preference for child labour: children's wages are much lower than adult wages and they are generally easier to control. Given costs of cultivation and prices they get for their produce seed farmers can not afford to hire adult labour by paying better wages and still earn a reasonable profit. According to a seed farmer who is producing seed for HLL *Government and non-governmental organisations are saying we should not employ child labour. If we have to employ adult labour we will have to pay double the wages than what we are paying now to children. With prices we get from companies we cannot afford to employ adult labour. Though our costs are increasing every year companies are not coming forward to increase their procurement prices. In the early 1990s when we paid Rs. 8 per day for each labourer the procurement price was Rs. 150 per packet (NHH 44 Hybrid). Now we are paying about Rs.20 for labour but the procurement price is only Rs 180 per packet. Our profit margins have come down drastically during last one decade but companies are able to increase their profit margin*²⁰.

Table 7: Per kg. Cost of production, procurement and marketing prices of cottonseeds of HLL, Syngenta and Mahyco-Monsanto, 2001-2002

Name company (seed)	Cost of production for farmers (Rs.)	Procurement price paid by the company to the farmers (Rs.)	Marketing price (price sold by the company in the market) (Rs.)

²⁰ Interview with Pullareddy (HLL seed producer) 21-1-2002

HLL (Brahma)	220	290	1100
Syngenta (Sandocot 35)	220	290	1000
Mahyco-Monsanto (BT cotton)	220	250-300	3550

SECTION IV

Recent interventions against child labour and response from MNCs

In recent years, the issue of child labour in general and child labour in cottonseed production in particular have received lot of attention from government, international agencies like ILO, Unicef, UNDP, media and NGOs in Andhra Pradesh. Eradication of child labour is one of the priority issues of the present government in the state. It has taken a stand that ` Any child out of school is a child labourer and universalisation of primary education is the only way to completely eliminate the child labour`. It has initiated a number of steps during last three years to address this issue. As part of its initiatives the state government has launched a massive state-wide campaign against child labour from August 2 to 12th 2002. The issue of child labour in hybrid cottonseed production has received special attention during this campaign and about 120 cases were booked against cottonseed farmers in Mahaboobnagar and Kurnool districts for employing the children. ILO/IPEC and UNDP have also initiated special projects for addressing the issue of child labour in areas where cottonseed production is concentrated.

Several NGOs like MVF (Mamidipudi Venkatarangiah Foundation) APMS (Andhra Pradesh Mahila Samatha and SHECS (Sri Hanumantharaya Educational Charitable Society) are also actively involved in elimination of child labour in some parts of the state. The issue of child labour in cottonseed fields was first brought to the lime light in 1998 by MVF which has been actively working for eradication of all forms of child labour in the state since 1990. During 1990s MVF has successfully withdrawn thousands of children from work including the children working in cottonseed fields and put them in schools in Ranga Reddy district. Inspired by the experience of MVF in addressing the issue of child labour in Ranga Reddy district, several NGOs like SHECS, Sramika Vikasa Kendram, LITDS (Layola Integrated Tribal Development Society) and Koneru working in other parts of the state have initiated similar experiments in their areas²¹. In recent years the media has also started giving wide publicity to the ongoing efforts of government, NGOs and

²¹ SHECS is working in Kurnool, APMS in Mahaboobnagar and Medak districts, Sramika Vikas Kendram in Mahaboobnagar, Koneru in Nalgonda and LITDs in Khamma districts..

other institutions in elimination of child labour. The issue of child labour in cottonseed fields received special attention from media and number of reports have been published on this issue.

The growing concern about child labour problem in the state put the entire cottonseed industry, which employs children in production of seeds in a big way under severe criticism. The role of companies in perpetuating the child labour problem is being questioned. The MNCs, which claims that they are committed to socially responsible business practices, have to face severe criticism both from national and international agencies.

Response from MNCs

Hindustan Lever

Responding to the issue of use of child labour in production of its cottonseeds HLL denies any direct contact with seed farmers and also the use of forced child labour as such in production of seeds. As a response to a news report `Even Multinationals Employ Child Labour for Profit` published in `The Hindu Business Line, 21-6-2001`, the General Manager in charge of Corporate communications, HLL, in a press statement issued on 25-6-2001, states that *`HLL has third-party seed organisers who get seeds produced from numerous farmers on sale/purchase basis and supply them to HLL. In no case, HLL deals with any farmer, either for production or for payments. Though HLL does not control or influence seed organisers` selection/dealing with farmers, the seed organiser typically supplies parental seeds to farmers at a cost with a buy- back arrangement of the resultant seed production. To carry out actual production, the farmer and his entire family work in the fields and employ additional labour whenever required. HLL or the seed organiser has no direct or indirect role in the farmer's practice of either taking help from his family members or employing labour`²².*

In a communication to the NOVIB a developmental organisation, a representative of Unilever makes similar observation stating that *`HLL has no direct contacts with the farmers themselves. In this situation I can affirm that HLL does not make use of child labour in the context of her cottonseed activities. Furthermore I can affirm that the suppliers of HLL, in this case the seed companies, do not make use of child labour in their activities. HLL is convinced that her suppliers act in accordance with her wishes because monitoring takes place by field visits, oral questions and frequent confirmation of these requirements. With regard to the actual cultivation of cottonseed the situation is less clear, we do not believe that forced labour by girls is used in the cultivation of cottonseed which we purchase. In the agrarian sector in India, just like in other developing countries, it happens a lot that children are working on the farms of their families. This is a way of life in societies where children are seen as active member of the family and in that capacity have*

²² The Hindu Businessline, 25-6-2001

to contribute to the family enterprise. This naturally differs from any other form of forced labour`.

HLL has recently transferred its seed business to its subsidiary `Paras Extra Growth Seed Ltd` and formed a joint venture partnership with Emergent Genetics. Participating in a consultative meeting of seed companies, NGOs and government departments against child labour in Hyderabad on August 3rd 2002, Mr. Mohan Rao person in charge of Human Resource Development, Paras Extra Growth Seeds states that `we acknowledge that there is a problem of child labour in hybrid cottonseed production. The problem is real and we are committed to address this problem. It is an industry problem also. Every one in seed industry has to pay serious attention to this issue. `

Interacting with the author the local representatives of Mahyco, Advanta and Proagro have expressed almost similar opinions about the child labour issue.

Mahyco

According to in-charge of production for Mahyco company in Kurnool *`As a company we do not employ any child labour nor we encourage our suppliers. We are not responsible for the practices of local farmers with whom we do not directly make any contracts. We agree that child labour is prevalent in production of seeds and the entire seed industry has to pay serious attention to this issue. We have to look for new technologies which reduces the requirement of labour in production process. Our company through its own research has released the new cotton hybrids using CMS (Cytoplasmic genetic Male Sterility) technology²³, which reduces the requirement of labour in production of seeds by half.²⁴ `*

Advanta

Advanta which has adopted seed village approach for production of its seeds and is directly involved in making contacts with seed producers in some areas also avoids owning any responsibility for child labour situation on the technical ground that it does not employ children directly. A local representative of the company states that *`Our company does not employ any child labour and we cannot enforce any regulations on the seed farmers since they are not employed by us. Most of the farmers who supply seed for us are small farmers. They primarily depend on their own family labour including their children for cultivation of seeds and employment of out side child labour is less`²⁵.*

Though seed farmers are not employees of Advanta it can exert substantial control over them. The legal agreement between Advanta and its seed farmers clearly indicates Advanta has substantial control over the production process and practices of the farmers. To quote from the legal agreement Advanta makes with its seed farmers for production of

²³ CMS technology makes emasculation obsolete and halves the labour required for pollination. Pollination is one of the two main tasks performed by child labour, the other being emasculation

²⁴ Interview with Mr. Bapairaju, production in-charge of Mahyco in Kurnool area, 21-1-2002

²⁵ interview with a company official who requested anonymity, Kurnool 22-2-2002

seeds ` the grower (seed farmer) agrees to carry out under the supervision and guidance of the officer/ representative of the company, the entire work relating to preparation and ploughing of scheduled land, attend to other agricultural operations such as proper and timely irrigation, interculture , application of proper quantities of fertilizers, application of pesticides when required, roughing, pollination, attend weeding operations, male chopping etc. and finally at the time as may be advised by the company harvest the seeds. During the currency of this agreement , the representatives, employees, agents or servants of the company shall have a right to enter the scheduled land for assessing the progress of cultivation and production of hybrid seeds and to ascertain and verify whether the grower has followed the advise render by the company pursuant to the provisions of this agreement and the grower agrees to allow such representatives, employees, agents or servants of the company to have ingress and egress to the land.`

Though Advanta has recently added a special clause in its agreement with seed farmers stating that farmers should comply with all the central and state level laws regarding child labour. No serious efforts were made by the company to implement this clause.

Syngenta

The issue of child labour has brought the Syngenta under severe criticism from investment companies in the West who have put pressure on the company to address the issue²⁶. Realizing that the issue of child labour is exposing its company to a significant reputational risk in addition to attracting negative media attention the top management of the company has decided to take a proactive role in addressing the issue. Speaking at a consultative meeting of seed companies, NGOs and governments departments against child labour in Hyderabad on August 3rd 2002 Dr. Shanthu Shataram, head of stakeholders relations, Syngenta states that ` We at Syngenta are very much concerned about the child labour problem in cottonseed production. We donot want to escape from our responsibility. Though we have not created the child labour problem in the process we have become part of the problem. Now we want to become part of the solution by taking necessary measures to eliminate the problem. `

Syngenta has initiated some measures during last one year to discourage the use of child labour in production process. For the first time during the current crop season company has put a special clause in written agreements which it makes with seed organizers stating that `children should not be used in cultivation of seeds`. It has also requested its seed organizers to decentralize the production by selecting more number of small and marginal farmers for production of their seeds. The company management is of the opinion that the usage of child labour is less in small and marginal farmers fields

²⁶ Dresdner RCM Global Investors, an international asset management firm based in UK had a meeting with top management of Syngenta in January 2002 to discuss the problem of child labour in production of cottonseeds in India. It has requested the company to take necessary steps to eliminate the child labour in production of its seeds.

compared to rich farmers. It has initiated a dialogue with local NGOs like MVF for taking up special projects to address the issue of child labour.

It is true that most of the MNCs or their subsidiaries have no direct agreements with the farmers themselves either for production or for payments but their claims about having no control over farmers and production process, employment of child labour by the farmers are not true. Although most of the companies are not directly involved in production process and making agreements with seed farmers they exert substantial control over farmers and production process by way of supplying foundation seed, fixing the procurement prices, quality supervisions etc. It is the company which fixes the prices paid to the farmers. It is the company which set the quality standards to be followed by the farmers for cultivation of seeds in the fields. Company representatives with help of seed organisers make frequent visits to the farmers' fields to check whether or not they are following norms prescribed by the company while cultivating the seeds.

Company representatives with the help organizers make a minimum of three field visits, at the time of rouging (the removal of off-types and diseased plants from within the fields before they start flowering is known as rouging) boll formation and crossing work. They also offer technical advice to them about the use of fertilizers and pesticides, precautions to be taken while doing cross-pollination work etc.

With regard to the farming practices of its seed producers (small farmers mostly depending upon own family labour, non employment of child labour) companies observations are not true. As we have already explained in section one most of the farmers involved in production of cottonseeds are rich and depend mostly on outside labour. Outside labour accounts for about 90% of the total workforce in cottonseed production. Seed production is highly capital intensive and those farmers who have enough capital can only venture into this activity. It is also labour intensive and even if it is a small-scale production of one acre it requires large number of labourers which can not be managed by family labour alone.

To sum up the activities of MNCs in the area of cottonseed business in India are not certainly in tune with what they claim about their commitment to socially responsible corporate behaviour. Though they are not directly involved in employing children they have substantial control over entire production process and seed farmers who actually employ children for producing seed for these companies.

REFERENCES

Basu, A.K and R.S. Paroda (1995) 'Hybrid Cotton in India: A Success Story' Asia- Pacific Association of Agricultural Research Institutions, Bangkok.

Patnaik, U. and Dingwaney M (1985) 'Chains of Servitude - Bondage and Slavery', Madras, Sangam Books.

Richard Anker, Sandhya Barge, S.Rajagopal and MP Joseph (1998) eds ` Economics of Child labour in Hazardous Industries of India' Centre for Operations Research and Training, Baroda.

Sarma Marla (1981) 'Bonded Labour in India - National Survey',.Bibilia impex. New Delhi

Venkateswarlu, D (1998) `Pattitotalalo Balikala Vetti Chakiri (in Telugu) Mamidipudi Venkatarangaiah Foundation, Secunderabad.

Venkateswarlu, D (2001) `Seed of Bondage: Female Child Bonded Labour in Hybrid Cottonseed Production in Andhra Pradesh` jointly published by Business and Community Foundation and Plan International (India Chapter) New Delhi.

Venkateswarlu, D (2001a) `Multinational Seed Companies and Girl Child Labour in Hybrid Cottonseed Production in Andhra Pradesh` a study commissioned by Catholic Relief Services, Hyderabad. (Unpublished report).

Venkateswarlu, D and L. da Corta (2001b) `Transformations in Age and Gender of Unfree Workers on Hybrid Cottonseed Farms in Andhra Pradesh` Journal of Peasant Studies, vol. 28, no 3, Pp 1-36.