



## **PROCUREMENT PRICE AND CREDIT PRACTICES IN SYNGENTA HYBRID SEEDS SUPPLY CHAIN, INDIA**

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## EXECUTIVE SUMMARY

### Background

In December of 2014, DanWatch, a Danish civil society organization that monitors the corporate social responsibility behavior of multinational companies, released the documentary “Seeds of Debt” by journalist Jens Pedersen. The documentary reported instances of exploitative high-interest money lending to farmers in rural Andhra Pradesh, India – a systemic problem in the agriculture sector – and featured testimony from farmers producing seeds for Syngenta, an affiliate of the Fair Labor Association (FLA). Interview footage in the documentary went on to link low seed prices paid to farmers with various labor violations found on farms, and to link farmer indebtedness to the widely reported phenomenon of farmer suicide in India.

Following the release of the documentary, Syngenta requested for the FLA to conduct its own investigation. The Fair Labor Association (FLA) appointed an independent research team to conduct a comprehensive assessment of Syngenta’s hybrid seeds supply chain in India to understand business practices and other factors that could affect working conditions. The team also assessed Syngenta’s price model, its interest free cash advances, the role of third-party seed organizers (middlemen, who work with both Syngenta and with growers, and who appear as money-lenders in the documentary), and the growers’ credit requirements and the common sources of finance.

Annually, the FLA assesses working conditions in farms supplying for Syngenta, as a condition of Syngenta’s affiliation with the FLA. While previous assessments had highlighted several of the same issues covered by the DanWatch documentary – such as non-payment of minimum wages and child labor – this investigation represents the first time the FLA has reported on the central topic of the documentary, the provision of high-interest loans to growers by organizers working for Syngenta.



*Women workers grading tomatoes for seed extraction at Ranibennur, Karnataka.*

### Methodology and Scope

The FLA selected an independent research team to conduct the investigation. During March and April of 2015, the team visited a total of 70 seed farms supplying Syngenta in 26 villages in the states of Andhra Pradesh and Karnataka in India. In addition to the field visits, the research team conducted a total of 178 individual interviews and five focus group discussions with farmers (also known as “growers”), farm workers, seed organizers, company management, company field staff, and other external stakeholders with knowledge about the production of six kinds of hybrid seeds – corn, rice, sunflower, tomato, chili, and okra.

### **Documentary Issues: Organizers' Loans and Farmer Suicides**

Of the 24 organizers interviewed by the research team, only four (17 percent) were found to be providing interest-bearing loans to growers, at a rate of 18 to 24 percent per annum. Researchers reported that in the villages covered by the investigation, growers consider 24 percent interest to be the upper limit before the rate becomes exploitative or usurious. Researchers also found that earnings from money-lending did not represent a significant income stream for those organizers involved, averaging only about one percent of these organizers' income.

In the villages covered by the investigation, researchers found no reports of suicide by any seed farmers. Investigators determined that interviews with farmers and other stakeholders, along with credit data collected from farmers, indicated a lower level of indebtedness among the areas' seed farmers as compared to farmers concentrating on commercial crop production. In the villages covered by the investigation, the reports of farmer suicides found by the researchers were among commercial cotton and commercial chili farmers only.

### **Procurement Prices and Interest-Free Cash-Advances**

In the course of its investigation, the research team found that most of the growers interviewed indicated a preference for seed production over the cultivation of commercial crops. Specifically, they identified the provision of technical support, input supply, and interest-free cash advances by Syngenta as advantages to seed production, and stated that the announcement of pre-determined procurement prices before the start of the growing season can bring certainty to their financial planning.

At the same time, the researchers found three issues with the implementation of these aspects of seed production that can

ultimately contribute to farmer indebtedness, affect the lives and livelihoods of farmers and workers, and create either the risk or reality of conditions on Syngenta-producing farms that violate the FLA Workplace Code of Conduct.

#### **1) Procurement Price Calculations -**

Researchers found that the procurement prices for seeds paid by Syngenta make it nearly impossible for farmers to pay their workers in accordance with local minimum wage standards. In part this occurs because Syngenta does not base its procurement prices on legal minimum wages, but on local prevailing wages, which fall 35 percent and 25 percent below the legal minimum in Karnataka and Andhra Pradesh, respectively. Researchers reported that based on Syngenta's current procurement prices and current crop yields, if farmers were to pay the minimum wage to their workers, they would be left with very low margins. (Find further discrepancies between Syngenta's estimates of farmers' production costs, and farmers' reports of their actual costs, in the body of the report.)

#### **2) Procurement Price Discrepancies -**

Despite the procurement prices established by Syngenta, researchers found that in some cases seed organizers fail to pay the agreed-upon price to farmers. Researchers found that in the vegetable crop sector in particular, Syngenta field staff have not communicated with farmers about the procurement prices they can expect, leaving it to the organizers to do so. As a result, the research team found that different organizers paid different prices to different growers, at rates lower than those specified by Syngenta. For example, for one variety of tomato seed, the research team found organizers paying growers up to 17 percent less than the agreed-upon price in the contract with Syngenta.

**3) Cash-Advance Delays -** To help farmers avoid indebtedness and high-interest loans, and to meet their needs for working capital while sowing and transplanting seeds,



Syngenta offers interest-free cash advances to farmers. However, the research team found that in general these advances cover only between 40 and 50 percent of farmers' working capital needs, leaving farmers to seek the balance from other sources. Furthermore, while company guidelines call for the advances to be released immediately after the thirtieth day of sowing or transplantation, in practice, the company takes up to three months to fulfill these requests. In the meantime, organizers advance a greater amount of capital to farmers than the company does, sometimes in the form of interest-bearing loans.

### Recommendations

In general, the study team observed that organizers are not only assuming company duties (such as providing advances to farmers), but are also performing more roles involved in seed production, assuming duties formerly conducted by farmers (such as detasseling operations in corn production, or cleaning operations in vegetable-seed production). For this reason, the FLA recommends incorporating organizer

operations into future cycles of the FLA independent external monitoring program.

In addition, the FLA recommends several actions to protect against the risks and realities of code non-compliance found by the investigation. As a foundation for bringing wages at Syngenta-producing farms up to the minimum level, the FLA recommends that Syngenta use local minimum wages in its procurement-price calculations, and make other adjustments to bring its estimates in line with grower realities. To prevent procurement price adjustments by organizers, the FLA recommends that Syngenta's written contracts should clearly articulate the grower price and the organizer's commission, and copies should be shared with the growers. And to remediate the delays in cash-advances to growers, the FLA recommends that the company allow growers to submit batch requests for early payment, without waiting for the completion of growers' sowing and transplantation activities.

Further details about the full investigation appear in the body of the report, along with additional recommendations for Syngenta.



*Interview with a sunflower grower at Haveri District, Karnataka.*

## I: INTRODUCTION

### 1. Background

With a network of over 25,000 growers and 200 seed organizers spread across different states of India, Syngenta is one of the leading companies involved in production and marketing of various types of hybrid seeds in India. India is endowed with several advantages that make it competitive for production of hybrid seeds that meet international seed standards. Reasons for India's success in hybrid seed production include availability of diligent growers, skilled labor at inexpensive rates, technical expertise, and a favorable climate that have led to continued growth of business.

Syngenta Seeds is the first agricultural company to affiliate with the Fair Labor Association (FLA). Since 2008, third party monitors working on behalf of the FLA have assessed working conditions at farms supplying hybrid seeds to Syngenta in the Indian states of Andhra Pradesh (now divided into two states), Karnataka, Gujarat, and Maharashtra. Two types of seeds are being monitored currently by the FLA: (1) hybrid vegetable seeds such as tomato, eggplant, hot pepper, okra, sweet pepper, squash, sweet corn, and watermelon that are small-size seeds and grown on small seed plots or under greenhouses; and (2) hybrid field crops such as corn, rice, and sunflower that are large seeds and grown in open fields. At present, 40 India-based assessments for Syngenta appear on the FLA website, encompassing visits to 952 farms. FLA conducted an additional six visits in 2014 covering 143 farms in India that are being processed and will be posted on the FLA website in the near future. FLA's independent external monitors have conducted a total of 1375 worker and grower interviews during the course of the 44 IEMs. FLA's verification of labor conditions concentrates on working conditions at the farm level, and the employment

relationship between growers and workers is benchmarked against the FLA's Code of Conduct.

As part of its farm-level assessments, the FLA has not comprehensively examined the terms of engagement between growers and Syngenta-contracted third-party organizers, or the terms of engagement between such organizers and Syngenta, particularly in the context of providing loans to growers. The FLA's Task and Risk Mapping studies of Syngenta's supply chains in India show that growers work on the basis of a contract (either verbal or written) that pre-sets the procurement price per kilo of the product and establishes the area under production for each season. Syngenta provides foundation seed to the growers that are sown by them in their farms.

Syngenta staff closely supervises the seed production process, visiting farms a number of times each season, and works closely with the organizers and their field team. At the end of each season, once growers deliver seeds to Syngenta according to the pre-set quality and quantity criteria, payments based on the procurement price are made to the growers. In the case of corn seed production, FLA assessors have found that Syngenta contracts out detasseling work to organizers, with growers playing a limited role in the process. The organizers arrange their own labor force, that goes from farm to farm carrying out harvesting activities, and hire field staff that oversee this process. The workforce could be hired on a daily basis or per acre of land. The cycle lasts about 40 to 50 days and Syngenta pays the organizer directly.

External information gathered by the FLA recently (from January 1 – 20, 2015) indicated that organizers may be extending the following interest-bearing loans to growers: (1) for costs associated with Syngenta seed production; (2) for other commercial crop production undertaken by the growers; and (3) personal loans. The organizers may be involved in a number of other businesses.



There is no clarity about the various roles of the organizers, if their field staff is acting as sub-organizers on behalf of Syngenta, and how these activities could impact Syngenta. The terms and conditions of Syngenta-provided interest-free cash might not be entirely known or clear to the growers.

Research on compensation practices at the farm level in Syngenta's supply chain in India in 2012 conducted by the FLA and India Committee of the Netherlands found gender discrimination at the farm level in the payment of wages to men and women as well as non-payment of minimum wages to workers.<sup>1</sup> This study did not explore the cost of production, loan availability, credit accessibility, or terms and conditions at which loans are available to the growers (for Syngenta production work and their own commercial crops). FLA has received some information from Syngenta on procurement price calculations and cost of production and wants to develop corrective action plans regarding compensation as is common practice for FLA member companies. The information provided by Syngenta also needs to be reviewed independently and verified.

A recent documentary titled "Seeds of Debt" released by DanWatch on December 26, 2014, contained a number of allegations criticizing Syngenta's business practices in corn hybrid seed production in the state of Andhra Pradesh<sup>2</sup>. These allegations relate to high interest loans provided by organizers and imply that the inability of the growers to pay back these high interest loans was leading to farmer suicides<sup>3</sup>. The film also made a link between low procurement prices paid by Syngenta and the lack of labor standards at the farm level. The documentary highlighted some possible issues in the hybrid seeds sector and commercial crops in India in

1 <http://www.fairlabor.org/our-work/special-projects/project/wages-inequality-wage-discrimination-and-underpayment-hybrid-seed>

2 <https://www.danwatch.dk/nyhed/filmen-du-ikke-maa-se/>

3 *ibid.*

general. In response, Syngenta reached out to the FLA with the request to conduct an in-depth investigation into the allegations put forward in the film.

## 2. Study Objectives

Syngenta requested the FLA to conduct an independent investigation into allegations made in a documentary released by DanWatch. The FLA worked with a team of independent researchers in India to conduct a comprehensive assessment in Syngenta's seeds supply chain in India. The specific objectives of the assessment included:

- 1) Review of procurement prices; cash advances extended by Syngenta; and relationship of procurement price to working conditions at the farm level.
- 2) Review the role of organizers in Syngenta's supply chain, internal management systems that could impact workplace conditions and benchmark against the FLA's Code of Conduct.
- 3) Map all production processes growers are involved in during an entire year and calculate cash advance requirements and their accessibility to credit.
- 4) Make specific, practical recommendations related to Syngenta's program to improve the existing situation.

The findings from the study are useful for the company to take necessary steps to optimize benefits to growers and workers while still doing profitable business in the seed industry. Comparison of problems and prospects of seed production with those of conventional crops helps clarify areas where there is ambiguity among the stakeholders.

## 3. Methodology and Sample Distribution

The results of this study are based on analysis of primary data collected through

**TABLE 1:  
DISTRIBUTION OF SAMPLE, BY LOCATION**

Locations covered	6 in Karnataka and Andhra Pradesh
Villages covered	26
Crops covered	6: tomato, hot pepper, okra, sunflower, paddy, and corn
No. of organizers interviewed	24
No. of growers interviewed	70
No. of individual workers interviewed	55
No. of focus group discussions with workers	5
External stakeholders** (NGOs, local bank officials, input dealers/ agents, money lenders)	10
No. of company staff interviewed	6 RPMs, 6TPMs, 1 CSR
No. of company management interviewed at Hyderabad HQ	6 (in charge of production of field crops, supply chain, procurement + CSR)

\* As Andhra Pradesh is now divided into two states, fieldwork was conducted in both states.

\*\* External stakeholder interviews: In Andhra Pradesh, the study team interviewed staff of two NGOs (Mr. Gandhi Babu, ASDS and Mr. Jogender, MARI), one local bank manager, two input dealers/commission agents and a government official. In Karnataka the team interviewed one NGO staff member, one local bank official and two input dealers/commission agents.

field visits and interactions with farmers and various categories of workers, seed organizers, company management, field staff, and external stakeholders in 70 seed farms in 26 selected villages in two hybrid seeds producing states in India – Andhra Pradesh and Karnataka. Available records and registers were also reviewed as needed to confirm the consistency of information. The roles of organizers, growers, and workers engaged in the production of six kinds of hybrid seeds – corn (maize), rice, sunflower, tomato, hot pepper (chili), and okra – were investigated in depth.

Though Syngenta has seed production programs in several states of India, production is largely concentrated in Andhra Pradesh and Karnataka, the two states where the present study has been conducted. These two states account for nearly 70 percent of Syngenta’s total seed production in India. While Karnataka is the prime location for vegetable seed production, Andhra Pradesh is the center for field crops like corn and rice. Karnataka accounts for 70 to 75 percent of total vegetable seed production for Syngenta

and Andhra Pradesh for more than 80 percent of rice and corn production.

Table 1 presents the location of sample units in the study. Since the focus of the study is on the role of seed organizers, the sample size of seed organizers covered is relatively high compared to growers. In terms of crops, 74 of the organizers contracted by Syngenta in Andhra Pradesh and Karnataka (90 percent) were involved in field crops and eight (10 percent) in vegetable crops.

A total of 70 seed growers were interviewed for this study. Table 2 presents the distribution of the grower sample, by states and crops. The worker sample included 55 individual worker interviews and five focus group discussions. In addition to interviewing organizers, growers, and workers, the study team also interacted with the company management staff in the production, procurement, finance, and CSR departments and at the production locations with the and field staff. The study team also interacted with a few external local stakeholders, such as NGO staff, local bank officials, government agricultural officers, and input dealers/



commission agents who have knowledge about the issues covered in the study.

Already validated survey instruments and pre-tested schedules designed especially for organizers, growers, and workers were administered to obtain data. The research team obtained lists of organizers along with contact addresses at each location and administered the survey and in addition had detailed discussions with selected organizers. Similarly, lists of growers were obtained and selected growers were surveyed using purposive sample method and administered schedules.

The visit to the farms associated with the deep-dive survey was partly unannounced. Syngenta provided the necessary data to the study team to carry this out. The team also met with Syngenta management and staff to discuss issues and to obtain clarity on some of the points. Half of the worker interviews were conducted off-site.

The study team assumed that the organizers, growers, and workers answered the interview questions truthfully and accurately based on their personal experience and to the best of their individual abilities. In a few cases, the organizers informed the study team that they had lost certain records, like the previous years' input advances and final payment settlement registers. The study team tried to cross check the information provided by the organizers with that obtained from the

growers. This was challenging as only a few maintained or were willing to show records detailing quantity of inputs used, amount spent, labor engaged, and wages. Thus, the study team had to rely on information conveyed from the growers' memory.

## II: ROLE OF SEED ORGANIZERS IN THE SEED SUPPLY CHAIN

Seed companies operating in India, including Syngenta, are dependent on local farmers for multiplication of seeds, an activity that seed farmers do at their own fields. Since Indian landownership laws do not permit individuals or companies to own large areas of land, companies are constrained in having their own farms producing large quantities of seed. Thus, they depend upon local seed farmers for production of seeds. Most of the companies do not make direct agreements with seed farmers. Instead they operate through third-party agencies called "seed organizers" or "seed coordinators."

A "seed organizer" is an independent businessman who mediates between a company and seed farmers for organizing seed production. The institution of seed organizer is a recent phenomenon in India, innovated by the companies as an administrative convenience to deal with large number seed farmers. Prior to the

TABLE 2: DISTRIBUTION OF SAMPLE OF GROWERS, BY CROPS	
CROP	# OF GROWERS
<b>Vegetable</b>	
Tomato	20
Hot pepper	4
Okra	6
<b>Field crops</b>	
Sunflower	10
Rice	20
Corn	10
<b>Total</b>	<b>70</b>

2000s, most of the companies had direct contacts with seed farmers. This was the case particularly in vegetable seed production, where the number of seed growers and production volumes were small in quantity compared to the field crops. As the demand for hybrid seeds increased and companies expanded their scale of operation, they found it difficult to deal with large numbers of farmers and started to depend on intermediary institutions like seed organizers.

Like other companies, Syngenta also worked directly with growers in vegetables to organize seed production until recently. About six years ago, Syngenta introduced organizers as intermediary agents into the supply chain as the company experienced uncertainty in dealing directly with large numbers of growers across states with respect to quality and quantity of seed production. In field crops, the system of organizers had existed for quite a long time. During the 2013 and 2014 crop season, Syngenta organized seed production in about 20,000 fields in the states of Andhra Pradesh and Karnataka with the help of over 100 seed organizers.

### **1. Organization of seed production: Roles of company, organizer, and farmers**

The roles played by the company, organizers, and growers are complementary to each other, as presented in Table 3.

Organizers are critical in the seed supply chain as they provide multiple services for the company and for the seed farmers and facilitate the smooth completion of production. Progressively the company is reducing its role and transferring tasks to organizers, from identification of area and growers to making organizers responsible for use of suggested inputs and for adaptation of recommended production practices.

### **2. Types of contracts between company and seed organizers**

At present Syngenta has two types of production agreements with seed organizers: (1) tripartite agreements, where the company enters into legal agreement with both seed organizers and farmers. In the underlying contract, the roles and responsibilities of both seed organizers and farmers are clearly spelled out; and (2) bipartite agreements where the company has legal agreement only with seed organizers; the seed organizers in turn enter into separate agreements with the growers.

In both types of agreements, the company fixes the production target for each organizer (type and quantity of seed it wants) and specifies seed quality requirements; the procurement price it will pay to the growers; amount of service charges or commission it will pay for the organizers; and the schedule for payment. It is the responsibility of the seed organizers 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, organizers decide the extent of area and number of farmers to be employed. In the case of bipartite agreements, the organizers make separate agreements with farmers reproducing in these agreements all of the terms and conditions required of them by the company. Some anomalies were found in the application of the bi-party contracts at the grower level that are described later in this section.

Organizers collect parent seeds and seedlings from the company and supply them to the growers. Growers sow/transplant the parent seeds, cultivate them in their farms, and hand over the harvested seed to organizers. Seed organizers collect harvested seed from farmers and transfer them to the company. After receiving the seed from organizers, the company will test



the quality of the seed and will pay money to the organizers based on agreed-upon prices and according to the quality standards. The company conducts three quality tests on seeds (a. physical, b. germination and c. genetic purity of seed) that take about two to three months to be completed. Only after these tests are completed does the company clear payments to organizers and growers.

### 3. Increasing role of organizers

Organizers, especially in vegetable seed production, are progressively performing more and more of the roles traditionally carried out by growers. For instance, one big organizer in Karnataka provides growers with a net-house, drip irrigation systems, seedlings, roughing, transportation of fruits, mechanical crushing, seed extraction, drying, cleaning, and other services. If they are well done, these services ease the seed production process and ensure quality of seeds. As the services carried out by organizers increase, the income received by growers declines as a share of overall procurement price.

A similar trend can be observed in corn seed production, wherein tasks such as detasseling, harvesting, transporting, threshing, cleaning,

and drying are currently being done by the organizers, which were earlier performed by growers. Left to growers are the tasks associated with high uncertainty like irrigation (where release of canal water, ground water availability, and power supply are uncertain), crop management (including pest and disease management which are vulnerable to weather conditions), and labor intensive pollination. Despite this encroachment by organizers, growers are continuing to seek the opportunity to engage in seed production because of its benefits over commercial crop production.

### 4. Seed organizer selection criteria

Syngenta has a set of criteria to select organizers, as many activities in seed production rest with these intermediary agents, from the supply of parent seeds to procurement of produced seed and settling final payments from the company to growers. The company seeks as organizers individuals who have the following characteristics: (1) be a local influential person, (2) have good contact with farmers, (3) have a track record, (4) prolonged experience in seed production, (5) capacity to produce seed, (6) ability to mobilize growers, (7) possess risk-bearing

**TABLE 3: ORGANIZATION OF SEED PRODUCTION: ROLES OF COMPANY, ORGANIZERS AND GROWERS**

COMPANY	ORGANIZER	GROWER
<ul style="list-style-type: none"> <li>• Technical guidance</li> <li>• Selection of seeds/organizers</li> <li>• Selection of villages for each hybrid seed</li> <li>• Village level meetings</li> <li>• Fix procurement price</li> <li>• Collect 100% growers list</li> <li>• Planning of sowings to align with optimum sowing window/ seed processing capacity</li> <li>• Trainings on quality and CSR to growers, workers and organizers</li> <li>• Field inspection &amp; resource generation for every grower. Agronomy, plant population &amp; expected yield.</li> <li>• Plan for the harvest.</li> <li>• Distribution of primary bags</li> <li>• Release of production advances</li> <li>• Final payment settlements</li> </ul>	<ul style="list-style-type: none"> <li>• Village identification</li> <li>• Collection of grower list</li> <li>• Provide facility to store parent seeds</li> <li>• Distribution of parent seeds</li> <li>• Assist in establishing net-houses with drip, mulch.</li> <li>• Distribution of critical inputs</li> <li>• Interest free cash advance distribution</li> <li>• Receive fund from company for detasseling and inputs</li> <li>• Organize labor for detasseling work (for corn)</li> <li>• Follow-up to ensure input application &amp; adaption of suggested practices</li> <li>• Support for field staff</li> <li>• Support postharvest operations</li> <li>• Security of product</li> <li>• Grower payment tracking</li> <li>• Assured payment to grower</li> </ul>	<ul style="list-style-type: none"> <li>• Land preparation</li> <li>• Sowing</li> <li>• Irrigation</li> <li>• Agronomic management, input application, spraying for pest and diseases.</li> <li>• Inter-cultivation</li> <li>• Security of crop</li> <li>• Harvesting seed</li> <li>• Seed extraction and cleaning</li> <li>• Delivering clean seed to organizer/company</li> </ul>

capacity, (8) have social status to resolve conflicts, (9) can mobilize resources to meet growers’ needs, (10) able to retain growers even in an unfavorable agriculture year, (11) assume responsibilities and are loyal to the company. The company assigns to each organizer a certain seed production target based on company requirements. The company’s procurement team meets with every organizer every year before the production season starts and informs them about areas that need improvement.

### 5. General profile of the sample of organizers

The study team selected a sample of 24 organizers from the vegetable and field crop seed production areas, administered the survey to each selected organizer, and engaged in detailed discussions. Relevant records and registers were also reviewed to follow key activities, like entries of inputs supplies, cash advances, seed delivered to the company, and final payments. Table 4 summarizes the general profile of the selected sample of organizers:

All the organizers are natives of the respective locations where they operate with good connections in surrounding villages and knowledge about seed production activities. Almost all organizers are from humble backgrounds except a few from middle class families and many of them have good land holdings, as they were growers previously. The organizers are middle aged (average age

over 38 years) and all have carried out formal studies (87 percent up to 10 +2 class).

Most of the organizers have seed production experience of more than 10 years. Several of them were growers before becoming organizers and have worked as organizers for Syngenta for the past eight years. On average, organizers have four field staff supporting Syngenta seed production. Forty-six percent of organizers also produce seed for other companies.

Organizers are from local areas and work with growers residing in surrounding villages. Only four organizers in the sample covered an area spread across districts. Relatively large organizers operate in corn seed production, whereas 80 percent of organizers in rice and sunflower are small players with low coverage of seed area (less than 300 acres) and low number of growers (fewer than 200). The study team found that most organizers (85 percent) covered about 65 vegetable seed growers each in Karnataka. One organizer in vegetable seed production serves about 70 percent of company needs in Karnataka. The presence of a high percent of small organizers indicates that the organizers are operating at sub-optimal levels of scale of production giving rise to low margins. However, organizers are seeking new growers with the hope of getting higher targets allotted by the company in subsequent years to increase earnings. Commissions earned by organizers are reported to be insufficient if the target area allocated to an organizer is lower than the minimum scale of operation.

**TABLE 4: GENERAL PROFILE OF SAMPLED ORGANIZERS**

CHARACTERISTICS OF THE ORGANIZERS	MEASURE
Average age (years)	38
Education: a) 10+2 b) Graduates (10+2+3) and Post-graduates (10+2+5)	87 % (21) 13 % (3)
Average experience in seed production (years)	12
Average period with Syngenta as organizer (years)	9
Field staff persons (average number)	4
Number of growers per organizer*	50 to 300

\* Except for two big organizers, other organizers had from 50 to 300 growers.



## 6. Compensation calculation for organizers

The service charges or commissions paid by the company to organizers vary across crops. These are determined on the basis of volume (in kilograms) of production. In high-value vegetable crops, such as tomato and hot pepper, the per kilogram rates are high compared to corresponding rates for field crops. The per kilogram service charges range from less than one INR per kg for corn, to several hundred INR per kg for tomato.<sup>4</sup> As a percent of the procurement price, the service charges paid to organizers in 2014 and 15 varied between 5 percent and 8.25 percent for different crops: for sunflower and okra it was 5 percent, for corn 5.5 percent, for rice 7.5 percent, and for tomato and hot peppers 8.5 percent. The study team found most of the cost to organizers comes from staff, travel, interest paid on money borrowed to extend advances to seed growers, and the imputed value of his own time. If larger target areas or production levels are allocated, organizers do better financially. At present, organizers do not seem to be paying attractive salaries to field assistants. For a small organizer who employs two to three field staff for supervising production, a seed production area allocation of about 300 acres in the case of corn or a target amount of 15 quintals of seed in tomato is considered to be the break-even point at which organizers'

<sup>4</sup> INR – Indian Rupee. 1 US\$ is equal to INR 63 as of May 1, 2015.

costs and returns match. If a lower area is allocated, organizers operate in a very tense environment. Organizers should get a margin sufficient to pay salaries to staff and meet travel and incidental costs plus a margin for the risk taken.

## 7. Activities of organizers, proportion of time spent and income derived

The study team found that the seed organizers are undertaking multiple activities, as shown in Table 5. Activities carried out by the organizers include seed production for Syngenta, for other companies, commercial crop cultivation, input business, money lending, and operating businesses establishments like processing units or education units.

About half of the organizers (46 percent) in the sample also organize seed production for other companies because of insufficient target allocation from Syngenta during the assessment year and because some also want to earn additional income. Other companies with which organizers are working include Bayer, Monsanto, Bioseed, US Agri, Delta, Mahyco, Pioneer, Bejo Sheetal, Advanta, Sakata, Kaveri, and Nujiveedu. About 79 percent of organizers were also found to be cultivating commercial crops.

The study team found that all of the organizers receive interest-free cash advances from the company to distribute to the growers to meet working capital needs in

**TABLE 5: OVERVIEW OF ORGANIZERS ACTIVITIES**

	ACTIVITY	PERCENT OF ORGANIZERS (AND ABSOLUTE NUMBER)	PERCENT TIME SPENT	PERCENT INCOME DERIVED FROM ACTIVITY
1	Seed production for Syngenta	100(24)	61	59
2	Seed production for other companies	46 (11)	24	22
3	Commercial crop cultivation	79(19)	19	23
4	Money lending	17(4)	5	1
5	Agricultural input business	13(3)	40	30
6	Others if any (socio-political activities*)	21(5)	32	38

\* Socio-political activities include running educational institutions, working as president of cooperative societies, elected members in local bodies etc.

seed production. Further, the study team observed that while the growers need money at the time of sowing the crop, the grower receives the company's advance about two to three months after sowing. Thus, the organizers are forced to provide the required cash and needed inputs to the growers to continue activities without interruption. Cash advances are provided to enable growers to apply recommended inputs and adopt suggested agronomic practices essential to produce the expected seed yield and quality rather than with the intension of earning interest.

A small share (17 percent) of organizers also lend money to growers charging interest, ranging from 18 percent to 24 percent per annum, on amounts over and above company cash advances. Growers need cash at the time of sowing and transplanting crops to purchase fertilizers, pay tractor-hiring charges for land preparation, and to pay workers' wages. Whereas growers receive company interest-free cash advances two to three months after the crop is sown or transplanted, growers request organizers to give advances at the time of sowing itself. Also growers need additional cash as the company advance covers only part of their working capital requirement. Non-company advances are repaid by the growers to the lending organizers with interest, at the time of final payment. The study team ascertained that these few organizers are not professional moneylenders. Even before the company introduced cash advances to growers, the organizers used to arrange credit to growers on their own in order to meet growers' cash needs and sometimes to ensure Syngenta's retention of growers. About one-fifth of organizers are doing other activities like running educational institutes or processing units, conducting real estate transactions, and engaging in politics.

## **8. Discrepancy in procurement price agreed to by Syngenta and price actually paid to vegetable-seed growers by organizers in Karnataka**

The research team identified discrepancies between procurement prices agreed to by Syngenta and those actually paid to growers by organizers in vegetable crops in Karnataka, where Syngenta has bi-party agreements with organizers and therefore does not make or monitor payments to growers directly. It appears that in these instances, Syngenta field staff has not communicated with growers about the procurement price, leaving it to organizers to do so.

The bi-party agreements between Syngenta and organizers for seed production in vegetable crops establish the price to be paid to the grower and the commission to the organizer. In reality some organizers make agreements with growers that specify a different price than stipulated in the bi-party agreement between Syngenta and the organizer. The research team found that different organizers paid different prices to their growers for the same crop and variety, with prices paid to growers generally lower than the price specified by the company. For a common variety of tomato seed, for example, the research team found that one organizer paid growers 11 percent lower than the agreed-upon price in the contract with Syngenta, while another organizer paid growers 17 percent lower, thereby resulting in higher commissions to the organizers.

Organizers justified their high commissions and service charges by stating that (a) they pay growers higher prices than agreed upon in cases where growers obtain lower seed yield than expected; (b) they pay the agreed-upon price to growers that obtain higher seed yield than targeted (in these instances, the company pays lower prices for seeds

produced above the targets<sup>5</sup>); and (c) they pay interest on money they borrow to make advances to the growers.<sup>6</sup>

## 9. Organizers' time allocation and income earned from different activities

The study team found that 54 percent of organizers were coordinating seed production exclusively for Syngenta and the rest of the organizers also coordinated seed production for other companies. On average 61 percent of the organizers' working time is spent on seed production for Syngenta and these activities earned 59 percent of their income. Further, the study team found that 46 percent of organizers were coordinating seed production for other companies, devoting 24 percent of their time and generating 22 percent of their income. Nearly four-fifths of organizers (79 percent) cultivated commercial crops, spent about 19 percent of their time in these activities, and earned 23 percent of income from them.

<sup>5</sup> The contract that Syngenta has with Organizers for vegetable seed production includes a clause whereby there is a reduction in the procurement price for over-production exceeding the target. If organizer/growers produce higher volumes (i.e., if the crop gives more yields than expected) the company reduces the price of the output it purchases above the target. Thus, in the case of over-production, the following payment conditions apply: (1) up to 120 percent of agreed-upon volume, the agreed-upon price; (2) from 121 percent to 140 of agreed-upon volume, additional output paid at 75 percent of agreed-upon price; and (3) above 140 percent of agreed-upon volume, additional output paid at 50 percent of agreed-upon price. When asked about the disparity (reduction) in the prices they paid growers, organizers cited this clause. They said farmers do not accept it and organizers must pay growers the agreed-upon price irrespective of production level. Thus, the organizers reason, if they have to pay some growers the agreed-upon price when they produce more than expected, then they need to reduce the price paid to other growers. Syngenta informed the FLA that this clause is only in the contracts for vegetable production, where the production volume can be managed during the pollination process. The clause is included in the contract to refrain from incentivising over-production that Syngenta does not have a market for. Syngenta explains that this clause is clearly stated in the contract with the organizers and should be extended to the growers when agreeing on target volumes.

<sup>6</sup> Organizers stated that due to the lengthy delays in the company's release of interest-free advances, they are incurring heavy expenses (interest on borrowed capital) as they are providing cash and input advances to growers several months before the company releases the funds.

## 10. Code awareness programs by the company

In addition to training programs on production-related activities and quality seed production measures, Syngenta has organized special training programs for organizers and their field staff on the FLA code of conduct (CoC)<sup>7</sup> with the support of resource persons and agencies. Almost all of the organizers interviewed have some broad awareness about different elements of the CoC. Organizers have the greatest awareness about child labor and health and safety standards. Some of the organizers have established special programs in their field locations to create awareness about child labor and field safety issues. Syngenta actively involved organizers in the FLA's internal monitoring system on the FLA CoC.

# III: PROCUREMENT PRICE AND COST OF PRODUCTION

## 1. Procurement price determination

The procurement price (PP) is the price the company pays to the vendor/grower for the volume of seeds produced and delivered to the company in that particular year. In determining the procurement price, the company considers many parameters, as shown below, including primarily the cost of production. Before the season starts, concerned Syngenta functionaries (from production, procurement, finance, and other teams) get together and decide the PP based on data for numerous factors. The study team observed that the PP differs for different hybrid seeds within the same crop and the PPs are revised (increased or decreased) annually based on updated data. In setting the PP, the company relies on the following variables:

<sup>7</sup> <http://www.fairlabor.org/our-work/labor-standards>



- i. Cost of production (CoP) of commercial crops
- ii. Average yield and net income from commercial crops
- iii. Commodity prices
- iv. Cost of production of seed
- v. Yield of seed
- vi. Incremental benefits to growers
- vii. Competition in the area
- viii. Inflation and other financial issues

The agreed-upon PP will be reduced if the produced seed fails to meet company minimum quality standards. The minimum quality standards of germination, and genetic and physical purity vary from crop to crop. In vegetables the minimum percent of germination required is 90 percent, genetic and physical purity is 98 percent. The price is reduced by three percent if germination percent is 85.01 - 89.99; the price is reduced by 13 percent if germination percent is 64.99 - 60.00 percent. Similarly if Syngenta's "Grow out Test (GoT)" results show 97.50 - 97.99 percent the price is reduced by five percent; and for 50.00 - 59.99 percent the price is reduced by 75 percent. With respect to vegetable seeds, there is an additional clause mentioned above to adjust price for overproduction (see footnote 5 above).

Growers compare the returns in seed production for Syngenta for a given seed crop to the returns from commercial crops. A grower takes a decision to engage in seed production if the grower finds potential benefits over and above those from cultivation of commercial crop. Wide variations are observed in procurement prices fixed by the company for different vegetable crops and varieties. It is difficult to compare PP paid by other companies in the market even for the same crop as the hybrids produced by each company differs. Variation in seed yields among hybrids further adds to the complexity in comparison of procurement prices.

## 2. Determinants of procurement price

The study team obtained cost of production (CoP) data from Syngenta and also computed the same with the data collected from the sample of growers. These two sets of data, presented in Table 7, are compared for two purposes: (1) to determine whether all the cost elements are considered; and (2) to gauge the difference between the CoP data by Syngenta with the one obtained from sample data from the growers.

All the figures (Table 6) cited in columns titled *Company* are taken from the CoP data shared by Syngenta. All figures cited in the column titled *Growers* are calculated based on the CoP data collected from the sampled growers. For the purpose of comparison, information about the same variety of hybrids seeds was collected from the growers that was provided in Syngenta's CoP. The research team used the same methodology for calculation of labour costs as used by Syngenta - an estimated number of labour days were calculated for each production activity and multiplied by the per day wage rate (prevailing rate) that was paid by the growers to the workers. The average yields reported by farmers with an exception of tomato were found to similar to the Syngenta estimates of the total yield.

Table 7 highlights that for all crops the labor wage estimates provided by the growers are slightly below the company estimates. Growers' estimates were based on actual amount paid by them, to the workers during the 2014-15 season. Whereas, company estimates were the projections for 2015-16 season which were made beginning of the season. While doing the projections company added four to seven percent inflation costs over the previous years costs. As per the research team, this explains the variations in the labor costs.

Overall, the methodology followed by Syngenta in calculating CoP was broadly

the same as considered by the growers. Both Syngenta and the growers used actual prevailing wage rates, rather than statutory minimum wages, while estimating CoP. It was noticed during the comparison that a few elements are not included in Syngenta’s estimation of CoP, like (1) interest on working capital in all crops and (2) cost of land leased in okra and sunflower crops. Similarly, differences were found in the estimated cost of land leased and wages paid. Growers need working capital for carrying out activities in seed production. Study data show that, about INR 150,000 per tomato crop seed production unit and more than INR 30,000 per acre for corn, rice, and sunflower seed production is required by the growers for crop growing period. The imputed value of the cost of capital, after deducting the company advance, used in seed production is calculated for the period and included in the CoP. Compared to the company calculations, the grower estimates of CoP are higher by 4.3 percent in tomato, 7.2 percent in corn, 2.5 percent in rice, and 17.6 percent in sunflower.

As per company estimates, growers’ net income in tomato and corn is about 30

percent, rice 14 percent and sunflower 24 percent. Whereas the growers realized only 13 percent net income in tomato, 15 percent in corn, 7 percent in rice and 10 percent in sunflower. The lower percent of growers’ net income over the company estimate is partly because of additional CoP incurred by the grower and lower seed yields. It is incorrect to say that the growers get net income of 30 percent, for example in the tomato category, as estimated by the company.

#### IV: LINK BETWEEN PROCUREMENT PRICES & PAYMENT OF MINIMUM WAGES

The issue of payment of minimum wages in agricultural sector in India has received public attention in recent years. The Minimum Wages Act 1948 in India guarantees payment of minimum wages to workers in different sectors, including the agriculture sector, though payment of wages below the legal minimum remains an issue in the agriculture sector.

TABLE 6: SYNGENTA CALCULATION OF COST OF PRODUCTION, EXPRESSED AS A PERCENTAGE OF GROWERS' CALCULATIONS								
INPUTS	TOMATO		CORN		RICE		SUNFLOWER	
Land lease**	25%		77.78%		81.25%		0%	
Fertilizers & chemicals	99.22%		95.61%		108.70%		104.66%	
Labor wages***	103.83%		124.78%		108.72%		135.10%	
Interest on capital	0%		0%		0%		0%	
Material & other costs****	103.80%		90%		86.36%		107.63%	
Cost of production	95.85%		93.29%		97.54%		85%	
Gross income	110.09%		105.58%		104.53%		95.79%	
Net income	218.14%		188.44%		211.38%		199.69%	
% net income over CoP	Calculated by Syngenta 30.00	Calculated by growers 13.18	Calculated by Syngenta 29.98	Calculated by growers 14.84	Calculated by Syngenta 14.18	Calculated by growers 6.54	Calculated by Syngenta 24.39	Calculated by growers 10.38

\*Based on interviews with Syngenta and growers. Growers calculations are averaged

\*\*Growers report that they lease land for an entire year, and that after seed production the land is kept vacant until the next season.

\*\*\*Aggregates wages paid for tasks including bed preparation, mulch installation, cross-pollination, weeding, pesticide-application, seed harvesting, etc. Both growers and Syngenta calculate wages based on prevailing rates, not the legal minimum wage.

\*\*\*\*Includes land preparation, electricity, net house, mulch sheet, drip, stakes, sanitation kits, etc.

For example, the 2012 report “Wages of Inequality” by the FLA and India Committee for the Netherlands (ICN)<sup>8</sup> found a range of wages (including wages below the legal minimum) that varied between regions, and tended to be higher in regions that are relatively developed. That report found average wages substantially higher for tasks like plowing, spraying pesticides and applying fertilizers (activities conducted mostly by men) than the wages for sowing, weeding, harvesting and cross-pollination (activities conducted mostly by women). The assessment also found that a comparison of procurement prices and prevailing wage rates in different crops and between different locations indicates that there is a link between procurement prices received by the farmers and wages paid to workers. Wages are generally higher in locations and crops where procurement prices are higher and farmers have greater profit margins.

Data on prevailing market wage rates for different activities in sample seed farms for 2014 and 2015 indicate significant variation in wage rates based on different states, regions within a state, type of crop, type of production activity, gender, location and nature of labor arrangement.<sup>9</sup> The average wages paid to the workers are substantially higher for tasks like ploughing and spraying pesticides which are predominantly done by men compared to the wages for sowing, weeding, harvesting, and cross-pollination which are mostly done by women. Regional variations in wage rates were also observed. Wage rates also varied between different crops. The wage rates are generally higher in locations and crops where farmers have greater profit margins. In Karnataka wage rates are relatively higher in the Ranibennur taluk in Haveri district compared to Koppal

<sup>8</sup> <http://www.fairlabor.org/our-work/special-projects/project/wages-inequality-wage-discrimination-and-underpayment-hybrid-seed>

<sup>9</sup> The findings are broadly in line with the findings of the ICN-FLA wages study conducted in 2012. <http://www.fairlabor.org/sites/default/files/documents/reports/wages-of-inequality.pdf>

district. Tomato seed production is largely concentrated in Ranibennur. Compared to other crops, procurement prices and profit margins for farmers are higher in tomato seed production.

A comparison of wage rates in seed production and commercial crops shows that wages are slightly higher in seed production. Also the wages are higher in seed production villages compared to neighboring non-seed production villages. Seed production has created a lot of employment opportunities and in seed production villages demand for labor exceeded supply, leading to rise in labor wages. In fact, seed growers get workers from other villages, in some instances from as far as 30 kilometers especially during peak season. Availability of skilled labor in a village is considered as one of the main determinant in the allocation of an area for seed production.

The recent trends in agricultural wages indicate a significant rise in wage rates for different farm activities in many parts of Karnataka and Andhra Pradesh. According to the official data collected by the Labour Bureau, under the Ministry of Labour and Employment, in Karnataka and Andhra Pradesh agricultural wages in general have increased by 108 percent and 128 percent, respectively, during the period from December 2007 to December 2011.<sup>10</sup> Despite recent increases, the wages paid for certain activities and especially for women workers are still below the minimum wages.

## 1. Prevailing wages are below the statutory minimum wages

Table 7 compares prevailing market wage rates for different activities in vegetable and field crop seed production in Andhra Pradesh

<sup>10</sup> Interviews with seed growers and workers during this research and the FLA-ICN study in 2012 indicate a steady increase in wages in seed production farms in recent years.



and Karnataka with statutory minimum wages prescribed by the respective state governments. The minimum wage rates for daily casual workers for agricultural activities prescribed by the respective state governments varied between INR 159 and INR 269. While Andhra Pradesh follows a zonal system for fixing wage rates, a uniform wage rate system is followed in Karnataka. The current legal minimum daily wage rate in Karnataka is INR 269. In Andhra Pradesh, the legal minimum daily wage rate is between INR159 and INR 266 in different zones. These rates are the latest available, relating to the 2014 - 2015 crop season. It is mandatory for state governments to revise their minimum wages every five years, though over the last decade this has tended to occur every two to three years.

A comparison of prevailing market wages with the statutory minimum wages fixed by the respective state governments clearly indicates that the law is not followed, especially for certain categories of workers and activities. Except for ploughing and pesticide application in Andhra Pradesh and pesticide application in Ranibennur in Karnataka, which are almost exclusively done by men, the prevailing market wages for all other activities are below the legal minimum wages. The prevailing wage rates for cross-

pollination activity, which is a vital activity in seed production in Karnataka, are 46.2 percent below the legal minimum wage in Koppal and 13.5 percent below in Haveri. In Andhra Pradesh the prevailing wage rates for cross-pollination are below 20 percent in zone 2 and below 18 percent in zone 3.

## 2. Cost of labor calculation with minimum wages

In calculating the cost of labor, the company considers only the prevailing market wage rates in that location and not the statutory minimum wages prescribed by the local government. The prevailing market wages for several operations, including cross-pollination and harvesting, which account for 90 percent of the labor activities in seed production, are low compared to legal minimum wages. For calculating expenses for cross-pollination, Syngenta used INR 175 per day per person both in Karnataka and Andhra Pradesh. The Syngenta-imputed wage rate is 35 percent and 25 percent below the legal minimum wages in Karnataka and Andhra Pradesh, respectively. If minimum wages are taken into consideration, the cost of labor for cross-pollination would rise by 35 percent and 25 percent in Karnataka and Andhra Pradesh, respectively. This in turn would increase

**TABLE 7: COMPARISON OF PREVAILING MARKET WAGES WITH STATUTORY MINIMUM WAGES, 2014-15**

ACTIVITY	ANDHRA PRADESH*		KARNATAKA	
	STATUTORY MINIMUM WAGES	PREVAILING MARKET WAGES	STATUTORY MINIMUM WAGES (INR)	PREVAILING MARKET WAGES
Plowing	Zone 2- 175 Zone 3- 159	Zone 2- 237.5 Zone 3-195.8	269.04	Koppal-188.5 Haveri- 225.0
Sowing/transplanting	Zone 2- 186 Zone 3- 159	Zone 2- 157.5 Zone 3-135.5	269.04	Koppal-125.0 Haveri- 175.0
Weeding	Zone 2- 186 Zone 3- 159	Zone 2-152.5 Zone 3-132.7	269.04	Koppal- 120.0 Haveri- 170.0
Pesticide application	Zone 2- 234 Zone 3- 213	Zone 2- 245.5 Zone 3-215.0	269.04	Koppal- 212.5 Haveri- 270.8
Cross pollination	Zone 2- 234 Zone 3- 213	Zone 2- 187.5 Zone 3-175.0	269.04	Koppal- 144.6 Haveri- 232.8
Harvesting	Zone 2- 186 Zone 3- 159	Zone 2-164.7 Zone 3-157.5	269.04	Koppal- 134.5 Haveri- 185.7

\* For the purpose of fixing minimum wages the state of Andhra Pradesh is divided into three zones. The survey locations where wages data was collected fall into zone 2 and 3. While the rice seed production is largely concentrated in zone 2, while corn seed production is concentrated in zone 3.

the total cost of production by 9 percent in tomato, 7 percent in sunflower and about 5.6 percent in rice. With the current procurement price and crop yields, if farmers had to pay minimum wages to workers they would be left with very low margins.

## V: COMPANY INTEREST-FREE CASH ADVANCES

Seed production is capital intensive and growers need cash to meet various production costs at different stages of the crop production. In order to help growers to meet at least part of their production costs Syngenta provides interest-free cash advances to growers. The purpose of the cash advances is to enable growers to apply the required amount of quality inputs and timely follow up of agronomic practices to ensure quantity and quality of seed. However, accessing the cash advance from the company does not obligate the grower to take up seed production only for Syngenta and many growers receiving cash advances from Syngenta are also producing seed for other companies.

While Syngenta’s system of cash advances has been in practice with respect to vegetable seeds and rice for a long time, in corn it started only three years ago, when seed cultivation areas were severely affected by cyclones. During 2011 and 2012, the company came up with a proposal of providing advances to growers taking up re-sowing of areas where they were unable to pay for the for necessary inputs on their own.

In addition to cash advances, with respect to field crops, Syngenta is also making arrangements through organizers for the

supply of critical inputs like insecticides and growth promoters to growers. With respect to corn, additional support is extended for detasseling work. Detasseling of the corn crop is completely carried out by seed organizers and the cost is paid by Syngenta.

### 1. Amount of advance per acre/kg seed

Syngenta pays a fixed amount of advance for each crop. The amount of advance varies from crop to crop. It is based on volume of targeted seed for vegetables and on acreage for field crops. For vegetables, 30 percent of the agreed-upon price for the targeted quantity is provided as advance after 30 days of sowing or transplantation. The amount of cash advance per acre in field crops varied by crop and location. In addition to cash advances, Syngenta also provides inputs — mainly insecticides — to growers and also detasseling expenses are paid by the company. Compared to field crops, the amount of advance per plot in vegetable crops is high because they are more capital intensive.

### 2. Growers’ awareness about company’s interest-free advances

Almost all of the growers interviewed reported that they are aware of the company providing advances to them. However, with respect to vegetables there is very little clarity about the amount of advance per plot or acre growers are entitled to receive. The amount of advance for vegetables is based on volume and procurement price and it varies from crop to crop and also within crop from one variety to another. Some of the growers do not have clarity with regard to the interest-free clause. Ten percent of the growers in vegetable crops

**TABLE 8: GROWERS’ AWARENESS ABOUT INTEREST FREE ADVANCES**

	VEGETABLE CROPS	FIELD CROPS
Aware about company providing cash advance to growers	100%	96%
Aware of amount of advance released per acre/plot	38%	92%
Aware about interest free clause	90%	86.7%

and 13.3 percent in field crops reported that they had taken large amounts of cash as advances from the organizers for both seed production and other needs and paid interest at the rate of 18 percent to 24 percent per year. When asked whether they paid interest for the entire amount they borrowed or only for the amount over and above the company advance, the answer from growers was not definitive. They stated that organizers charged some lump sum amount towards interest and either the organizer did not clarify what was included in the lump sum or the growers did not ask for clarification.

### 3. Percentage of cost of production covered through advance

Table 9 presents estimates of percentage of cost of production (CoP) covered through cash and input advances for different crops. In vegetable crops, the company cash advances accounted for nearly 35 percent of CoP as calculated by the company; in maize it was 33.2 percent, in rice 17 percent, and in sunflower it covered only 11.3 percent. For farmers who produce on their own lands and whose family members also work on their farms, the actual amount of working capital needed for crop production is less than the amount estimated in CoP calculations. If we consider working capital needed for paid out costs, the percentage of working capital requirement met by the company through advance is close to 50 percent in vegetable crops and okra and about 40 percent in rice.

### 4. Schedule of advance release: Company to organizer to grower

#### *Company to organizer*

The company's advance is released based on the receipt of proposals from the organizers, duly approved by the company production staff once the seed crop gets established (about a month after sowing or transplantation) in the field. The advance is approved for the area actually with good

crop stand but not for the planned area (plough-down area is not paid). The approved money is transferred to the organizers' bank account. All cash and input advances released by the company for the growers are routed through organizers. It is the responsibility of the organizer to distribute the amounts to the growers. In case of input advances, the organizers are responsible for buying the inputs from markets and distributing them to growers.

Currently there is a mismatch between the timing of growers' cash requirement and the timing of company advance releases. The purpose of releasing advances is to meet growers' cash requirements at different stages of crop cycle for timely application of inputs and carrying out different operations. Though there is a company guideline for release of the advance immediately after the thirtieth day of sowing or transplantation, by the time the company completes the processing of documentation and approvals for the release, more than two months have passed, and in the case of vegetables, three months. Table 10 presents data on completion of sowing dates and advance release dates for different crops for 2014-15.

During the 2014-15 season, the sowings of hot pepper in the state of Karnataka were completed in the month of September 2014 (from September 9 - 20) and the company released the 30 percent agreed-upon price for approved quantity in the third week of January 2015, nearly four months after completion of sowings. Similarly, for tomato, the first batch of sowings was completed by the first week in November and the second batch on December 10, 2014; the advance for tomato was released in the third week of February 2015. The process of releasing advances is a little faster in field crops, and the time between completion of sowings and release of advance is less than 40 days.

The timing of company releases of advances is not fully serving the intended purpose of



meeting grower needs in a timely manner because the timing of growers' requirements for working capital are different. Growers need cash right from the sowing of the crop. Table 11 shows approximate percentages of working capital needed at different stages of crop production. In vegetables, more than 50 percent of the working capital is needed for infrastructure (net house, mulching sheet, drip irrigation material, pipes and sticks) and inputs like fertilizers and pesticides at the time sowings or immediately after. Cross-pollination is another stage in which growers need large amounts of cash to pay for labor wages. At the time of harvesting also there is a need for cash to pay to workers and to cover harvesting machine charges.

**Organizer to grower**

As growers need substantial amounts of working capital at the time of sowing or transplanting and early stages of the crop, there is a demand and pressure on organizers from the growers for advance payments earlier than the company advance release dates.

In practice, organizers make arrangements for the supply of inputs and cash advances when growers need them and these amounts are later adjusted from the company advances. Organizers make advances to growers out of their own and borrowed funds. Organizers often buy or procure inputs in bulk, supply them to the growers, and see that they are

applied in seed plots to get the expected seed yield and quality. A small number of financially well-off growers take only company advances and buy basic inputs like fertilizers out of their own sale proceeds of crops rather than getting them from organizers.

Table 12 presents advances released by organizers to growers at different stages of the crop cycle; they take the form of cash or of kind, consisting of various inputs like fertilizers, pesticides and, in the case of vegetables, mulching sheets, sticks, and other supplies. Some organizers have their own input shops to provide these materials. Those who do not have their own shops link the growers with local input dealers who sell these materials on credit basis to the growers. In these instances, the organizers guarantee the amount of credit growers take for inputs. In vegetables, organizers also extend support for building net houses, drip irrigation, etc. During 2012-13, Syngenta extended additional advances for net houses.

**TABLE 9: PORTION OF COP COVERED BY COMPANY THROUGH CASH AND INPUT ADVANCES FOR 2014-15, BY CROP**

CROP	% OF COP
Tomato	34.4%
Hot pepper	36.9%
Okra	35.7%
Sunflower	11.3%
Rice	17%
Maize	33.2%

**TABLE 10: GAP BETWEEN DATES FOR COMPLETION OF SOWING AND COMPANY ADVANCE RELEASE, 2014-15, BY CROP**

CROP	SOWING DATES	ADVANCE RELEASE DATES	GAP BETWEEN SOWING AND ADVANCE RELEASE DATES
Tomato	26 Oct - 7 Nov -- First batch 27 Nov -10 Dec -- Second batch	Feb third week, 2015 At the time of harvesting	About three months for first batch and 2 months for second batch
Hot pepper	9 - 20 Sept 2014	16 Jan 2015 (at the time of harvesting)	Four months
Okra	10 May to Jun 2014 (staggered sowing; about one and half month)	1st week of Aug 2015 (just before pollination)	Two months
Rice	Dec 2014	Feb, second week 2015 (just before pollination)	One and one-half months
Corn	Nov 2014	12-19December (just before pollination)	One and one-half months

### 5. Amount advanced by organizers higher than company advance

The financial support extended by organizers to growers in the form of cash and in kind is greater than the amount extended by Syngenta to growers. With regard to field crops, in particular, organizers extend high amounts of advances to growers. In corn and rice, the average advance amounts extended by different organizers per acre was found to

be as much as double the amount extended by the company . With regard to vegetable crops there is little difference between the advance amount released by the company and the advance amount provided by the organizer.

### 6. Documentation of cash advance and final payment to grower

The documentation process for release of advances starts right from the sowing of

**TABLE 11: WORKING CAPITAL REQUIREMENT AT DIFFERENT STAGES OF THE CROP**

CROP CALENDAR	APPROXIMATE %PERCENT WORKING CAPITAL REQUIREMENT
Land preparation, sowings/transplantation	Vegetables- 50 % Field crops- 25%
Vegetative Stage*	Vegetables- 10% Field crops- 25%
Pollination	Vegetables- 30% Field crops- 30%
Harvesting	Vegetables- 10% Field crops- 20%

\* Vegetative stage is the crop growing period between sowing and flowering.

**TABLE 12: SCHEDULE OF ADVANCE PAYMENTS BY ORGANIZERS TO GROWERS**

INSTALLMENTS	STAGE OF THE CROP	CASH/KIND	REMARKS
First advance	Sowing/transplantation	Mostly in the form of kind	Supplying fertilizers and pesticides, in case of vegetables mulching sheet, sticks etc. Some organizers have their own input shops to provide these materials. Those who do not have their own shops link the farmers with local input dealers, who sell these materials on credit basis to them. In these cases, the organizer provides guarantee for the amount farmers take inputs on credit.
Second advance	Cross pollination	Cash	Cross-pollination activity is very labor intensive and growers need cash.
Third advance	Harvesting	Cash	Costs include use of seed harvesters, seed extraction and cleaning machines etc. Amount is paid by organizers and later deducted from final payment. Some organizers in vegetable crops have invested in this machinery and provide services to growers.
Fourth advance (Need based)	Immediately after handing over harvest	Cash	If growers have any pressing needs, they approach organizers for more advances. To maintain good working relations with growers, organizers normally provide some advances at this stage to the growers express this need. Not all the organizers do this. Less than 10 percent of the growers reported that they approach organizers for advance at this stage.

the seeds by the grower in the field. A list of the seed growers is prepared by organizers once the crop establishes in the field and is submitted to the company with a request for cash advance. The lists are collected from Individual organizers, compiled, and then submitted to Syngenta by local company production staff. The company processes the requests, releases the advance to the organizers' bank accounts, and informs the organizers. It takes two to three months' time after sowing for the advance to be deposited in the organizers' bank account.

Growers personally request company-provided interest-free cash advances orally from organizers and also request it from company production staff. Many growers receive cash advances from the organizer before the company advance is received. For those growers who have already taken an advance, the amount is adjusted with previous advances and the balance amount, if any, is distributed to them. Most of the organizers pay the company advance to growers in the form of cash.

The cash advance and value of inputs provided are recorded in a register by the organizer in 90 percent of cases. Only one organizer in the sample had systematically documented transactions and maintained records in a professional manner. In the case of field crops, the amount of advance given, the value of inputs supplied and the final payment to the grower are included in a statement prepared by the organizer following the company's standard format,

duly signed by the grower, organizer, and production staff. On receipt of signed form, the company releases the organizers' share to their accounts and the balance of payments to the growers' accounts. The organizers obtain acknowledgments of payment from the growers and submit them to the company as evidence of final settlement.

## 7. Sources of funding for the organizers

The data gathered in this study clearly indicates that organizers are extending higher amounts of advances to the growers than the amounts approved by the company and also releasing advances to growers prior to the company's releasing of advances. The major sources of funding for the organizers include: (a) banks that provide overdraft facilities; (b) local dealers who provide inputs on credit basis; (c) internal management of funds from one crop to another; and (d) their own funds. For organizers who work with multiple seed crops, the timing of advance releases and payment settlements vary across crops; they have a continuous flow of cash and they can shift funds from one source to another. As already explained, a major part of the advance extended by the organizers is in the form of inputs. Part of this requirement is being met through linking the growers with local dealers, who provide inputs on credit. Organizers guarantee the amount local inputs dealers advance to growers. The local dealers charge 18 percent to 24 percent annual interest for the credit they extend. Some organizers reported that they are using

**TABLE 13: ADVANCE AMOUNT RELEASED BY THE COMPANY AND ACTUAL AMOUNT PROVIDED BY ORGANIZERS TO GROWERS**

CROP	COMPANY ADVANCE AMOUNT	TOTAL ADVANCE AMOUNT BY ORGANIZERS (INPUTS + CASH)
Tomato and hot pepper	98 - 116 *	100 - 140 (60% -65% inputs + 35-40% cash)
Okra	50	50 - 60 (40% inputs + cash 60%)
Rice and Corn	12 - 20	20 - 40 (50% -55% inputs + 45-50%)

\* Figures are proportionally accurate units, but do not represent rupees, as this information is proprietary to Syngenta.



bank overdraft facilities to meet part the cash requirements; banks charge 13 percent to 15 percent annual interest on overdraft balances.

### 8. Syngenta facilitation for access to credit from lending institutions to the organizers

It was reported that a few years ago, Syngenta contacted banks in the seed production area and explored the possibility of facilitating institutional finance to the organizers and growers. It has been reported that the banks asked Syngenta to guarantee the transactions, an action that company did not support. The company dropped the idea and has left to the organizers to manage their own relations with the banks.

## VI: PROFILE OF SEED GROWERS

During the 2014-15 crop cycle, Syngenta contracted seed production to over 10,000 growers for different crops in Andhra Pradesh and Karnataka. A total of 70 growers were selected for the study, of which 40 were growing field crop seeds and 30 vegetable seeds; 40 of the selected growers were from Karnataka and 30 from Andhra Pradesh.

Based on the sample selected, the profile of the growers producing seed for Syngenta is as follows:

- The majority of growers, particularly in field crops, are small farmers, who own small pieces of agricultural land and partly depend upon their family labor for cultivation. The information from the growers sampled shows that the average size of land holding is five acres in field crops and eight acres in vegetable crops.
- Most of the growers, particularly in vegetable seeds, are well trained in seed production, have more than 10 years of experience in seed production, and have worked with Syngenta for more than seven years in vegetables and five years in field crops.
- In vegetable crops, most of the growers produce multiple crops for Syngenta. For the last several years, Syngenta has been encouraging growers to produce multiple crops and also the same crop in different seasons. The production plan is designed in such way that one crop is followed by another; in the case of the same crop, one batch is followed by another for better utilization

TABLE 14: GENERAL PROFILE OF GROWERS

CHARACTERISTICS	FIELD CROPS	VEGETABLE CROPS
Average age (years)	41.6	40.7
Average land holding (acres)	5	8
Caste (%)*		
BC	40	50
OC	30	23
SC	15	24
ST	15	3
Literacy (%)		
Illiterate	25	17
Literate	75	83
Number growing multiple crops for Syngenta	12	51
Grower's experience (average in years)		
Seed production	7.15	9.2
Syngenta seed production	5.4	7.2

\*Scheduled Castes (SCs), also called Dalits; Scheduled Tribes (STs), also called Adivasi; Backward Castes (BCs); and Other Castes (OCs).

of infrastructure (land, net houses, irrigation infrastructure, etc.) and trained labor. More than 80 percent of the growers in the sample are involved in either multiple crop production or the same crop in different seasons.

- A small portion of growers -- less than 10 percent -- is also producing seed for other companies.
- Almost all of the growers are also growing commercial crops in their lands. In field crops, nearly 40 percent of their cultivated area is allocated for seed production and in vegetables, the seed production area accounts for 15 to 20 percent of the area. Though the area allocated for seed production is small, particularly in vegetables, it requires far greater resources in terms capital and human labor for cultivation compared to commercial crop production.
- For most of the growers, seed production is their major activity in terms of their allocation of time and contribution to total family income. Seed growers in field crops are spending nearly 50 percent of their time and earning 55 percent of family income

from seed production. Growers in vegetable crops are spending 63 percent of their time and earning 68 percent of their family income from seed production. Growers in field crops and vegetable crops spent 32 percent and 24 percent, respectively, of their time in commercial crops, and commercial crops accounted for 30 percent and 21 percent, respectively, of income earned.

## VII: FARMERS CREDIT NEEDS: SOURCES AND TERMS OF LENDING

An important component of the study is an assessment of the credit needs of the growers for both seed production and other activities and how these are being met from different sources and under what terms and conditions.

The profile of the seed farmers shows that they are not exclusively working for Syngenta in producing seeds and not completely dependent on seed production for their income. Though seed production done for Syngenta is very important in their economic activities, they are engaged in various other economic activities like commercial crop production, managing dairies, and other activities, to generate income to support their families.

Seed growers need credit for various purposes, such as seed production, commercial crop production, and family needs (like education, medical expenses, ceremonies, etc.). The study team encountered some difficulties in collecting data on exact amount of loans farmers obtained from non-organizer sources. Although they shared a lot of qualitative data, some growers showed no interest and felt somewhat uncomfortable in sharing with the study team quantitative data related to loans from non-organizer sources. Keeping this constraint in mind, the collection and analysis of credit data was limited to 24 farmers (12 in field crop and 12 in vegetable seed production) who shared the information with the team.

**TABLE 15: DISTRIBUTION OF CROPPED AREA BETWEEN SEED AND COMMERCIAL CROPS PRODUCTION(%)**

	FIELD CROPS	VEGETABLE CROPS
Total area for seed production	39.5	14.5
Seed -Other company	3.0	2.0
Commercial crops	57.5	83.5
Total	100.0	100.0

**TABLE 16: TIME ALLOCATION AND INCOME OF GROWERS ACCORDING TO SOURCE (%)**

	FIELD CROPS		VEGETABLE CROPS	
	TIME	INCOME	TIME	INCOME
Seed production for Syngenta	50	55	63	68
Commercial crop production	32	30	24	21
Other activities	18	15	13	11

## 1. Sources of credit

Table 17 presents data on how growers sourced the total credit needs of their families, including credit for seed production, for commercial crops and for other needs. The share of different sources in meeting the credit needs of the growers clearly indicates that advances from Syngenta and from organizers covered a significant portion of grower credit requirements both in vegetable and field crops. It covered nearly half of the credit needs of vegetable farmers and 40 percent of field crop growers.

The second most important source of credit is agricultural input dealers and commission agents. Nearly 30 percent of credit requirements for field crop growers and 20 percent for vegetable growers was met by input dealers and commission agents. The major portion of this credit is in-kind: they sell inputs like fertilizers and pesticides to growers on credit basis, in most cases with the condition that farmers sell their harvest only to them. Money lenders provided eight percent and 10 percent, respectively, of credit needs of farmers in vegetable and field crops.

The credit from institutional sources, like commercial banks and agricultural cooperative societies, is relatively insignificant, covering only about 15 percent of the total credit needs of the growers. The banks have the provision to extend up to 80 percent of working capital needed for crop

cultivation<sup>11</sup>. The research team learned that most of the farmers that actually obtained credit from banks did not repay their loans and therefore banks are not providing any fresh loans. Some growers reported that they did not repay the bank loans expecting a loan waiver from the government. Political parties in Andhra Pradesh before election in 2014 promised loan waivers for farmers and this led to farmers stopping paying loans to banks. After the election, the new governments in both in Andhra Pradesh and Telangana took the decision to write off all the agricultural loans taken by farmers from banks. On behalf of the farmers, the government decided to repay the loans taken by the famers to banks.

## 2. Interest rates and other terms and conditions

The interest rates and other terms and conditions associated with the credit growers obtained from different sources is presented in Table 18. One of the important questions in the present study is to determine whether organizers are extending loans to growers to meet their non-seed production requirements, such as commercial crop needs, or personal requirements. The data indicates that the majority of the organizers' own advances to growers -- about 58 percent -- was to

<sup>11</sup> As per the NABARD (National Bank for Agriculture and Rural Development) guidelines, banks are advised to extend crop loans up to 80 percent of cost of cultivation.

**TABLE 17: SOURCES OF TOTAL\* CREDIT RECEIVED BY FARMERS, BY CROP (%)**

SOURCES	FIELD CROPS	VEGETABLES
Syngenta	21.6	39.7
Seed organizer	17.2	12.3
Banks, cooperative societies, Self-Help Groups (SHG)	15.2	16.8
Input dealers/commission agents**	30.5	19.2
Money lenders	10.3	7.9
Others (friends, relatives, etc.)	5.1	4.0
	100.0	100.0

\* Total credit includes credit for seed production, for commercial crops and for other needs of the family.

\*\* Commission agents are individuals who have shops in Agriculture Produce Markets and facilitate farmers' sale of their produce to traders. They charge a commission for their services. A majority of them also have input dealership and sell inputs to growers on credit with the condition that growers should sell their produce to them.



meet seed production requirements. Some organizers who have their own agricultural input shops also extended a portion of loans (24 percent) in the form of inputs for the purpose of commercial crops. The amount of credit extended for personal needs, such as expenses for education, health, and ceremonies, accounted for 17 percent of the total credit extended to growers. Out of 24 farmers interviewed, seven reported that they availed themselves of special loans from organizers to meet their family expenses, like paying children’s education fees, marriages, and paying for medical services. The amount of credit extended by organizers over and above the company advances is deducted from final payments made to the growers after the completion of the harvest, when the company releases the payment amount. Most of the organizers are not charging any interest directly, but meeting the interest expenses on borrowed capital out of margins they earn in bulk procurement of inputs and supply to growers. Some organizers, mostly in field

crops, are charging 18 to 24 percent annual interest directly on the amount they provide to growers over and above company advances.

The normal interest rate charged by input dealers and commission agents is 24 percent per annum<sup>12</sup>. These loans are mainly used for cultivation expenses. Accounts are normally settled after the end of the harvest, when growers sell their crops. In many cases there is a condition included in contracts that growers should sell their commercial crop produce only to these dealers. In the case of

<sup>12</sup> The interest rate of 24 percent per annum is within the prescribed norms set by the Reserve Bank of India (RBI) on maximum interest rates chargeable by non-banking financial institutions and individuals. In 2011, RBI put an interest rate cap of 26 percent per annum on loans extended by non banking financial institutions. Under the law for carrying out money lending activities, registration and license from the government is compulsory. If a money lender does not hold a license, any suit for recovery of the money will not be maintainable before the court of law (Source: “Requirement of registration for private money lending in India,” by Vivek Kumar Verma, <https://indiancaselaws.files.wordpress.com/2014/04/requirement-of-registration-for-private-money-lending-in-india.pdf>).

**TABLE 18: INTEREST RATES AND OTHER TERMS AND CONDITIONS OF CREDIT, BY SOURCE**

SOURCE	INTEREST RATE PER YEAR	OTHER CONDITIONS
Syngenta	Interest free.	The amount paid by the company is an advance payment for crop production and is deducted from the final payment.
Seed organizer	Some organizers are charging 18 to 24 percent annual interest on the amount over and above what the company advances to growers.	The loans are extended mainly for the purpose of seed production. Some organizers who have their own agricultural input shops also extend loans to cover inputs for the purpose of commercial crops. The amount is deducted from final payment made to the grower at the end of the harvest when the company releases the payment amount.
Banks, cooperative societies	For crop loans, 7 to 9percent per annum; for other purposes 13 to 15percent per annum.	Collateral security in the form of land or other assets is compulsory. The normal duration of crop loans is one year. There is a lot of paper work to be completed for processing of loans. The loans for crop production are not given throughout the year. There is a fixed schedule for releasing of the loans (about one month during Kharif and one month during rabi season).
Input dealers/ commission agents	Normal interest rate is 24 percent per annum.	Mainly for cultivation expenses. Credit is extended mostly in-kind (fertilizers, pesticides, seeds). Accounts are normally settled after the harvest, when growers sell their output. In many cases there is a condition in contracts that growers should sell their product only to these dealers.
Money lenders	Normal interest rate is 24percent-36percent per annum. Some moneylenders occasionally also charge higher rates (of 44percent to 60percent per annum) depending upon the need of the borrowers.	Extend loans for all purposes. In most cases, collateral security is not needed.
Others (friends, relatives etc.	Usually no interest is charged. In some cases interest is charged. The rates vary from 12percent to 18percent per annum.	Multipurpose loans, mostly of short duration.

Note: In the field locations researched, 24 percent interest rate per annum by informal private lending sources is not considered as a high or usurious interest rate.

private moneylenders, the normal interest rate they charge is 24 to 36 percent per annum. Some of them occasionally also charge higher rates – from 44 percent to 60 percent depending upon the need of the borrowers. They extend loans for all purposes and in most cases they do not demand any collateral security. In the field locations researched, growers did not consider the 24 percent interest rate per annum assessed by informal private lending sources as exorbitant. Interest rates above 24 percent are considered as high or usurious interest rate.

## VIII: PROSPECTS OF SEED PRODUCTION COMPARED WITH COMMERCIAL CROP CULTIVATION

About 80 percent of sampled farmers cultivate multiple crops, including seed production. Seed production is the major activity for most of the farmers as discussed in Section II above. Syngenta seed growers perceive that seed production supplements their income and makes farming profitable. The advantages growers experience in seed production are: announcement of procurement price well before the season, expected seed yield, interest-free cash advances, input supply, technical support, and better control over production. In contrast, in cultivation of commercial crops, farmers are uncertain of crop yield and market price for the output, in addition to other limitations shown in Table 19. However, growers are cultivating commercial crops in addition to seed production as Syngenta sets limitations to what a grower can produce in the area for seed production.

Seed growers and other farmers cultivating commercial crops like chili, cotton, and tobacco, borrow larger amounts of funds from different sources to meet cost of cultivation and become unable to repay loans if income from cultivation of commercial crops is low due to low yields, low market prices or both,

whereas the farmers doing seed production face a lower level of stress to repay the loans as they are ensured of fixed procurement price and are less vulnerable to variations in yields.

Given a choice, most to the growers interviewed indicated that they would like to undertake more seed production for Syngenta or other similar companies.

## IX: FARMERS' INDEBTEDNESS AND SUICIDES

India is an agrarian country, with around 60 percent of its people depending upon agriculture. It is reported that from 1995 to 2013, a total of 296,438 farmers in India killed themselves, or an average of 16,469 suicides per year<sup>13</sup>. Next to Maharashtra, Andhra Pradesh – one of the states covered by the present study – witnessed the highest number of farmers' suicides among India's states. In the year 2012 alone, around 2500 farmers committed suicide in Andhra Pradesh<sup>14</sup>.

The issue of farmer suicides has received attention from various quarters and has been widely reported and documented. The government, recognizing the gravity of the issue, appointed a number of committees to inquire into the causes of farmers' suicides in particular, and into farm-related distress in general<sup>15</sup>. The studies have identified factors contributing to farmers' suicides. High indebtedness is identified as one of the main factors driving farmers to the drastic step of committing suicide, apart from other reasons like monsoon failure, price fluctuations, high input costs, government policies, mental

13 "Have India's farm suicides really declined?", P. Sainath <http://www.bbc.com/news/world-asia-india-28205741>

14 <http://www.deccanchronicle.com/131209/news-current-affairs/article/more-2500-farmers-committed-suicide-andhra-2012>

15 "The political economy of farmers' suicides in India: indebted cash-crop farmers with marginal landholdings explain state-level variation in suicide rates," by Jonathan Kennedy. <http://www.globalizationandhealth.com/content/10/1/16>

health, personal issues, and family problems. Individuals facing the highest suicide risk factors were those who grew cash crops, those with “marginal” farms of less than one hectare, and those with debts<sup>16</sup>. The suicides occurred overwhelmingly amongst cash crop farmers – growers of commercial cotton, sugar cane, groundnuts, vanilla, coffee, peppers, and others. Far fewer suicides occurred amongst growers of paddy or wheat<sup>17</sup>. The study team has not come across any study reporting suicides amongst farmers producing hybrid seeds.

The states as well as union governments have established schemes like loan waivers to bail out farmers from distress. In 2009, the government of India implemented a loan waiver scheme, which cancelled all farm loans from banks and cooperative societies taken by

<sup>16</sup> Ibid.

<sup>17</sup> “How states fudge the data on declining farmer suicides,” by P. Sainath, August, 2014 <http://www.rediff.com/news/column/p-sainath-how-states-fudge-the-data-on-farmer-suicides/20140801.htm>

small farmers with less than two hectares of land<sup>18</sup>. The government has compensated the financial institutions for the amounts owed. Similarly, the state governments of Andhra Pradesh and Telangana in 2014 took a decision to write off all outstanding farm loans taken by farmers from banks and cooperative societies up to INR 1,00,000 in Telangana and up to INR 1,50,000 in Andhra Pradesh<sup>19</sup>

The recent documentary “Seeds of Debt” released by DanWatch contained a number of criticisms of Syngenta’s business practices in corn hybrid seeds production in the state

<sup>18</sup> Under loan waiver scheme, small and marginal farmers with landholdings of less than two hectares could have their entire outstanding loans through March 2007 waived. Farmers with holdings of over two hectares were eligible for a one-time settlement rebate of 25 percent of their outstanding loans, subject to the condition that the remaining 75 percent would be paid in three instalments by June 30, 2009. No interest would be charged on the outstanding amount. <http://infochangeindia.org/agriculture/news/loan-waiver-scheme-for-indian-farmers-extended.html>

<sup>19</sup> <http://www.financialexpress.com/article/economy/andhra-pradesh-govt-to-waive-farm-loans-up-to-rs-1-5-lakh/15865/>

**TABLE 19: SEED PRODUCTION COMPARED WITH COMMERCIAL CULTIVATION**

	PARTICULARS	SEED PRODUCTION	COMMERCIAL CROPS
1	Size of area	Depends on allocation by company/organizer	Farmer discretion based on farming capacity.
2	Quality seeds	Company supplies free of cost	Farmer pays high price; quality uncertain.
3	Inputs	Obtained from organizer on credit	Obtain from commission agent/ input dealer at higher price and paying interest.
4	Cash to meet cost of production	Company provides interest free cash advance. Organizer gives additional credit on no/normal (18 to 24percent) interest.	No interest free advances. Input dealers, commission agents and moneylenders usually charge 24 to 36percent per annum interest rate.
5	Critical inputs (herbicides, growth promoters and insecticides)	Company provides some of these free of cost	Need to buy from market. Involves cost.
6	Technical support	Company continuously provides	Based on own limited knowledge.
7	Yield	Knows with high precision provided technical and timely measures are applied. Short duration crops have less exposure to climate risks.	Varies depending on the crop. Quite variable for relatively long duration crops (chili and cotton—duration of 8 months).
8	Prices	Procurement price is predetermined before season begins	Varies based on market situation (cotton prices decreased from INR 5000/quintal in 2014 to INR4000/quintal in 2015. Distressed sales occur as there is no facility to store and to meet cash needs if price is low.
9	Risk of crop failure	Company pays cost of cultivation if crop fails	Farmers’ own risk. Government may pay some compensation in calamitous situations.
10	Control over resources (water, credit, technology, etc.)	Good control since use of resources planned according to resources availability	Low control as extensive area under crop.
11	Profits	Moderate but ensured	Moderate but uncertain



of Andhra Pradesh. These allegations related to high interest loans provided by organizers and implied that the inability of the growers to repay these high interest loans was leading to farmer suicides. One of the important focus areas of the present study is to assess the extent to which this issue occurs among seed growers in Syngenta's supply chain. The study has made efforts to comprehensively assess the situation of Syngenta seed growers by collecting data and information related to cropping patterns, credit needs, borrowings, and terms and conditions of borrowings for seed production, conventional farming and personal needs.

It was learned from interactions with stakeholders that farmers cultivating commercial crops like chili, cotton, and tobacco in resource-poor conditions in the state of Andhra Pradesh have borrowed money from private agencies at high interest rates and failed to repay due to crop failures and price fluctuations. Multiple factors – such as uncertainty of water for irrigation due to failure of irrigation bore wells, undependable electricity supply, lack of eligibility for institutional finance due to lack of collateral as they cultivate on leased lands, failure

of agricultural extension system, lack of insurance, climate change, etc. – led to crop failures and perpetual losses. A high-pressure situation with no hope of getting out of it has driven some farmers to suicide.

The credit data collected from the sampled farmers and also interactions with growers and other stakeholders clearly indicates that compared to commercial crop growers, indebtedness levels among seed farmers are low. None of the sampled farmers interviewed had fallen into a serious debt trap, as less than 40 percent of their credit needs had been met from money lenders and input dealers combined. With regard to the 11 sample villages in Andhra Pradesh covered by this study, farmer suicides have been reported in two villages; the farmers who committed suicide in these two villages were commercial cotton and chili growers, not seed farmers. Advantages in seed production described above helped seed farmers not to fall into the serious debt trap that commercial crop farmers faced. While seed producers are not completely free from uncertainty associated with agricultural production, they feel slightly more secure because of various advantages in seed production.



*Interaction with paddy pollination workers in Andhra Pradesh.*



## X: CONCLUSIONS

This study did not substantiate the allegations that Syngenta knowingly engages in exploitative high-interest money lending with its farmers in India.

The study did substantiate that some individuals working as “seed organizers” for Syngenta (17 percent of those studied) engage in their own money lending to farmers, at rates of 18 to 24 percent -- rates that farmers reported they did not consider exploitative. Researchers found that seed farmers reported a lower level of indebtedness compared to commercial farmers, and researchers did not find any incidents of seed-farmer suicide reported in the villages covered by the investigation.

In fact, the study found that growers reported several reasons to prefer seed production for Syngenta to commercial crop production, and some farmers stated that that seed production supplements their income in a way that makes farming a viable profession overall. Other advantages growers receive

in seed production for Syngenta include announcement of procurement prices well before the season, expected seed yield, interest-free cash advances, supply of inputs, technical support, and guaranteed purchases. In contrast, in cultivation of commercial crops, farmers face uncertainty of yield and fluctuation in procurement prices, in addition to other risks. Still, during the course of this research, investigators identified opportunities to improve some of Syngenta’s internal management systems.

Over the years, Syngenta has introduced processes in its hybrid seeds supply chain to aid supplier farmers producing seeds. Nevertheless, some recent practices, for example granting organizers more responsibility in production and conducting a number of tasks that were previously performed by the growers, has led to a gradual decline in farmers’ income. The tri-party contracts Syngenta has executed with organizers and growers are working well; however, researchers found discrepancies in the payments made by the organizers to the



*Workers loading corn seed bags at Ranibennur, Karnataka.*

growers where only bi-party agreements exist between Syngenta and organizers. It was found in the latter instances that organizers were retaining a higher commission and not paying the procurement price agreed upon with Syngenta to the growers. Currently some of Syngenta's written contracts with organizers in vegetable seeds do not clearly spell out the details of the procurement price payable to growers and of the service charges or commissions paid to organizers. A single price is mentioned, which gives scope to organizers to manipulate the procurement prices they pay to the growers.

A study published in June 2014 titled "The price of less child labour and higher wages: Assessing the link between farm wages and procurement prices in Bt. cottonseed production in Andhra Pradesh, India," shows that seed production has created new opportunities for employment in the villages and the demand for labor exceeds the supply, thereby driving wages up. The labor wages were found to be positively related to procurement prices.<sup>20</sup> Recent trends indicate a significant rise in prevailing wage rates for different farm activities. However, payment of wages for certain tasks – mostly tasks performed by women -- still remains below legal minimum requirements. Researchers found that the calculation method used both by Syngenta and by the growers to arrive at Cost of Production (CoP) does not take into account the minimum wages and instead relies on industry prevailing wages. CoP determines the procurement price and

<sup>20</sup> By Davuluri Venkateswarlu <http://www.indianet.nl/pdf/ThePriceOfLessChildLabourAndHigherWages.pdf> Study highlights the trends in wage rates and procurement prices in cottonseed producing locations in Andhra Pradesh showed that higher procurement prices for cottonseed led to an increase in wages rates and a decrease in child labor. The study noted that the rise in procurement prices between 2010 and 2013 enabled the growers to increase the wages attracting more adults to join the workforce. The rise in procurement prices also encouraged the growers to increase the area under cottonseed production, creating additional demand for labor in a market, which is already facing labor shortages. This led to further tightening of labor markets and pushed wages up.

growers reported the method currently used does not leave them with sufficiently high margins for them to be able to compensate the workers with the legal minimum wage. Researchers noted a few other variances in the CoP calculation method used by Syngenta and growers; e.g. Syngenta did not include in its CoP calculations interest on working capital and costs of leasing land in okra and sunflower crops, and there were differences noticed in the of cost of land leases and worker wages paid.

Syngenta provides growers with interest-free cash advances with the intention of enabling them to apply required amounts of quality inputs and adopt suggested agronomic practices to ensure quantity and quality of seed. The research conducted in this study indicates that the company's cash advances cover only a part of the working capital needs of growers. The company has guidelines to release cash advance at two stages; however, in practice the advance is released only once, almost at the time of harvest. The delay in the release of advances is not serving the intended purpose of meeting grower requirements on a timely basis. To overcome this situation, organizers extend credit to the growers and charge interest on this credit extension. The study team found that organizers were unable to provide records to document the amounts advanced to growers, inputs supplied, seed handed over and final settlements made for the current and previous years. This research concluded that the organizers are not professional moneylenders and the interest rates they charged were in the acceptable range, but the management of the advances needs better management. Furthermore, a number of government lending institutions exist that could help farmers access credit at a much lower interest rate.

The study team observed that organizers are gradually performing more and more of the labor-intensive tasks formerly performed by growers in seed production, such as



detasseling operations in corn production, harvesting and separating low-quality or virus-infected plants (off-type (damaged) plants) in rice, and seed crushing, extraction and cleaning operations in vegetable seeds. Organizers are engaging labor directly to carry out these tasks and have assumed responsibility for providing required services for the workers at the field level. In spite of their increasing role, not all organizers have a clear understanding about all the FLA's Code of Conduct or other labor standards and lack proper orientation.

## XI: RECOMMENDATIONS

The following recommendations are made by the FLA and the research team to help improve Syngenta's internal management system.

**1. Reassessing of the role of organizers in the supply chain:** The current study found that a sizable portion of the cost of seed production goes into the service fee for the organizers. Until six years back this practice was non-existent. Secondly, there are a large number of organizers operating in Syngenta's supply chain. It is recommended therefore that Syngenta reevaluate its supply chain model so that Syngenta works with a limited number of organizers who are engaged in a limited capacity in most urgent situations. Furthermore, Syngenta should look into consolidating the number of organizers it is currently working with. It is recommended to have fewer organizers with stronger contractual agreements in place.

**2. Strengthening written contracts with organizers and growers:** The research found that in areas where Syngenta has tri-party agreements with organizers and growers, the room for mismanagement of commission rates and procurement price was negligible. It is recommended that Syngenta use tri-party agreements in all seeds operations (vegetable and field seeds) wherein terms and

conditions, procurement price information, details of the grower price and organizer's commission and payment of minimum wages to the workers clauses are clearly spelled out.

**3. Systematic third party monitoring of organizer activities and operations:** Given the increasing involvement of organizers in production-related activities that are labor intensive, it is recommended that the activities of the organizers are brought under the purview of FLA's independent external monitoring.

**4. Orientation and training of organizers on labor standards and their involvement in the Syngenta's internal monitoring program:** The study found that even though the organizers are managing a number of production activities for which they hire workers, their knowledge about labor standards is limited. Furthermore, although organizers are a critical link in Syngenta's supply chain, they have not yet been integrated into Syngenta's internal monitoring program. It is recommended that Syngenta conduct a comprehensive training for organizers on labor standard requirements, and include them in the identification of non-compliance areas, root cause analysis and preparation of corrective action plans.

**5. Documentation maintenance for cash advances made by the organizers:** It is clear from the study that most growers are in need of cash advances that are extended to them by the organizers. However, there is ambiguity on whether the growers pay interest only on the cash extended by Syngenta or by the organizers. Therefore, it is recommended that Syngenta require organizers and help them maintain detailed records of the cash advances paid to the growers, terms and conditions and interest rates. Syngenta, in order to introduce a uniform system, could develop standard formats for data collection that are updated periodically by the organizers and randomly cross verified by Syngenta.

## 6. Review cost of production calculation method with stakeholders:

It is recommended that Syngenta conduct a thorough review of the cost of production of hybrid seeds and include actual costs in the calculation of procurement price. At a minimum, costs related to interest on working capital; actual lease amount for land; and minimum wages to labor be included in the calculation. It is recommended that Syngenta engage with a select group of experts and civil society organizations locally to come up with a calculation method that ensures minimum wages to the workers while ensuring business viability and competitive advantage.

## 7. Assess the feasibility of ring-fencing the cash advances paid to growers to ensure payment of minimum wages to the workers:

The study indicates that the interest-free loans are only made available to the growers during peak season or harvesting. During that time, growers have to make payments to workers. Syngenta could assess the possibility of allocating this advance for payment of minimum wages to the workers. Syngenta could introduce a system whereby the workers and growers track the type of activity and the total hours worked, which will determine the amount needed to pay minimum wages. These advances will finally

be deducted from the final procurement price payment. This system is self-correcting, as workers and growers cannot over-report or under-report the number of days worked as finally it will come out from the final procurement price made to the growers.

## 8. Timely payments of interest-free cash advances:

The study found that delays in the release of advances lead to grower dependency on organizers and other private lenders for necessary funds. In order to minimize the time gap between advance requests by the growers and actual release by the company, the FLA suggests that growers submit batch requests for company advances for early payment, without waiting for completion of all sowings.

## 9. Link growers to legitimate lending institutions to access upfront credit:

It is recommended that Syngenta facilitate the process by which growers could apply and obtain lower interest-rate credit from Governmental and legal financial institutions. This could start with inviting the representatives of these institutions to the village-level growers meeting and conduct awareness on how to access credit. Syngenta staff could also help growers to fill out loan applications.



*Focus group discussion with tomato growers at Koppal district, Karnataka.*