

## Comparison of Livelihoods at Ambala and Kalka Tehsils (Agriculture and Non-Farm Livelihood)

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### Abstract

In this paper, the livelihoods in Ambala (Ambala tehsil), and Kalka (Kalka tehsil, Panchkula district) are compared based on the agricultural and non-agricultural sources of income, recent trends, structural variations, and the implications of the policies. There is analysis based on the recent state and district reports (where possible), local extension notes, and data on district administration, which show how geography, landholding structure, irrigation and crop pattern, industry presence, and urban connection influences choices and possibilities of households. The paper ends with specific suggestions to local planners, as well as a list of references.

### 1. Introduction

The livelihoods in North India semi-urban and peri-urban areas are on the crossroads. The combination of opportunities accessible to rural households has been altered due to mechanization, market linkages, industrial growth, and public programmes. The tehsil of Ambala (Ambala district, Haryana) and Kalka tehsil (Panchkula district, Haryana) are geographically close yet they vary with regard to landscape, administrative history and economic specialization. Ambala is a historic agricultural district, with a lengthy industrial base (textiles, instruments, engineering) and Kalka lies in an intermediate zone - plain irrigated tracts south of the Shivaliks and useful hill-fringe and tourism-related economies (Pinjore, Kalka town) making it have a rural-urban nature. That combination is important to the occupation of the people: to the agriculture (crop, horticulture, livestock) or it is to non-farm occupation (industry, services, commuting labour, petty trade). The current paper draws a comparison of the two tehsils based on recent government statistics, district

profiles and extension literature to create a picture of current picture grounded. The sources that are significant to be used are the Haryana Statistical Abstract and Economic Survey, Krishi Vigyan Kendra (Ambala) district notes, Haryana horticulture statistics, and some data of Panchkula district administration.

**2. Research objectives:** the paper attempt to address the following research objectives.

1. The research question to discuss and compare the organization of agricultural livelihoods in the tehsils of Ambala and Kalka in relation to landholding size, agricultural types, irrigation means, the reliance on agriculture as the primary means of earning.
2. To examine the nature and level of non-farm livelihoods in both tehsils such as industrial employment, trade, services, transport, tourism and informal sector.
3. To determine the contribution of physical and socio-economic variables like relief, soil, climate, distance to urban centres, infrastructure, and education in determining livelihood decisions in Ambala and Kalka tehsils.
4. To make comparisons between livelihood diversification and income stability between households in the two tehsils, to point out some differences between the region, opportunities, and new issues on farm and non-farm sectors.

### **3. Methodology**

The analysis is anchored on the following methods and data analyses: Macro indices and agricultural aggregates have been compiled at the state level (Haryana Statistical Abstract 2023-24; Economic Survey 2024-25).

District/tehsil reports: Krishi Vigyan Kendra (Ambala) district profile and Panchkula district administration pages (demography, tehsil documents) to find local patterns of cropping, source of irrigation and population structure.

Sectoral: Haryana horticulture statistics and state agriculture compilations (to include horticulture and horticulture related activities like floriculture/medicinal crops in Ambala).

The local industrial and development profiles of the industrial clusters in the Ambala industry are being used to capture the contemporary shocks and opportunities in drains, industrial risk news. In the case of tehsil-level numeric data that were not available online in one current table, the paper combines district and block data (state statistical abstracts, KVK notes, district plans) with official tehsil pages (Panchkula) to provide a reasonable comparison.

#### 4. Discussion and Interpretations

##### 4.1 Geography, Demographics and land use.

**4.1.1 Ambala (Ambala tehsil)** is located in a major severely plain agricultural area in the northeast of Haryana. Cropping is dominated by net sown area and canal/tubewell irrigation with rice, wheat and sugarcane being the leading crops and horticulture on the increase (10-12% area under horticulture in the Ambala district based on KVK notes). The agriculture in the district is well irrigated (intensive use of tubewells) and also the medium-sized industrial clusters (textile finishing, engineering, precision instruments) are clustered around the Ambala Cantonment and Saha industrial areas. This two-facet nature, both productive farming and manufacturing agglomeration, provides households with diversified off and on-farm choices.

**4.1.2 Kalka (Kalka tehsil, Panchkula district)** is a geographically diverse area. It encompasses the plain tracts (intensive agriculture and market towns such as Pinjore), rail/road node of the town of Kalka and the lower Shivalik hills and hill-fringe settlements. The overall level of urbanization of the Panchkula district is higher than that of many districts in Haryana (over half urban population) and Kalka tehsil has some significant heritage/tourism pockets (Pinjore gardens) which sustain construction and tourism activities. The tehsil is more urbanized and possesses more commuting links to Chandigarh-Panchkula-Mohali urban agglomeration.

#### 5. Agriculture: patterns of cropping, yields and related activities.

##### 5.1 Ambala tehsil- cropping and allied.

The agriculture of Ambala district is typified by rotations of rice-wheat where sugarcane is included and also the role of horticulture and medicinal/industrial crops is on the rise. KVK Ambala data note typical annual rainfall about 1,000 mm and high dependence on groundwater (tubewells almost 100% source of irrigation), net sown area constitutes a major portion of rural land use; horticulture contributes to only about 10-12% of cultivated area at district level. State reports on horticulture indicate that Ambala is having significant area under fruit crops and other new medicinal/essential oil crops. These trends produce seasonal demand of labour (transplanting, harvesting) and open prospects of on-farm wage labor and other service suppliers (input shops, small machinery services).

Ambala has good market access and irrigation which affect yields and incomes in the area.

But agricultural earnings are subject to volatility in the price of inputs (fertilizer, pesticide) and water table stress. The local reporting also cites regulatory changes and enforcement on supply of pesticides/fertilizers as one of the recent local reporting, a reminder that farm input markets may swing in an unexpected manner and impact on farmer margins.

### **5.2 Kalka Tehsil Cropping and allied**

Plain parts of Kalka are based on the regional rice/wheat prevailing cycles only with less landholdings and greater fragmentation in the urban fringe. Pocket (fruit-trees, vegetable cultivation) horticulture and orchards are found particularly where high-value outlets (peri-urban markets) are available (Chandigarh, Panchkula). In some areas, the mixed farming (small ruminants, fodder, orchards) has been adopted in the hill-fringe villages, and agro-forestry or niche crops are preferred. A review of the administrative notes of Panchkula district indicates that the main focus has been on enhancing the rural infrastructure and irrigation schemes in blocks, and Kalka is one of the tehsils that has both agricultural as well as tourism/urban pressure.

**5.3 Comparative point:** Agriculture in Ambala is more dominated by commercial cereal and sugarcane agriculture with strong irrigation and proximate agro-industries; Kalka is more composed of smaller, diversified farms with large peri-urban vegetable/horticulture production and hill-fringe livelihoods (livestock, small orchards). This implies that it is common to find that the Ambala farmers frequently are exposed to the mechanized services and input markets whereas the Kalka households balance between the diversified small holdings and non-farm wage opportunities.

## **6. Non-agricultural lives: industry, services, migration and commuting.**

### **6.1 Ambala- industry and manufacturing.**

There is a long-tradition of industry in Ambala. The agro-processing sector, instruments, textile finishing, and other small and medium enterprises (SMEs) in the instruments and textile finishing among many others are found in Ambala Cantonment, Saha and other industrial estates in numerous small and medium enterprises (SMEs). The industries generate factory work (both skilled and unskilled), contract employment and associated services (logistics, transport). The industrial base of Ambala is also favourable to the daily

commuters of the neighbouring villages where the rural households can already enjoy the regular industrial wages. Investment (public land earmarking of health infrastructure) and shocks (industrial waterlogging incidents necessitating emergency drainage) are both noted in the news coverage of the previous year, which are signs that industry is significant to the local livelihoods, but subject to infrastructure pressures.

### **6.2 Kalka - services, tourism, construction and commuting.**

This non-farm mix by Kalka is more inclined towards services, construction and tourism-related earnings. The horticultural gardens and access routes to the hills of Pinjore create seasonal tourist traffic; road-upgrades and peri-urban development (residential spillover on Chandigarh) creates the need to seek construction labour and small contractors. Kalka town is also a transport hub and most inhabitants travel into Panchkula/ Chandigarh seeking government employment, shopping and formal services. The tehsil enjoys better urban connections, i.e. there is more non-farm employment as a proportion of the household incomes than in purely rural tehsils.

**6.3 Comparative point:** Ambala represents manufacturing and factory wage services in the industrial estates of the tehsil; Kalka has additional services, construction and commuting services that are associated with the Chandigarh urban economy and tourism. Accordingly, Kalka families tend to compound into daily wage work in building, minor trade and municipal services, and those in the Ambala families may have more involvement in factory work or agroindustrial supply networks.

### **7. Household strategies and labour markets.**

Multi-livelihood strategies are practiced in both tehsils, involving cultivation, wage labour, small trade and migration. But the balance differs:

The supplementary income within the households of the Ambala is usually provided by the constant industrial jobs (factory jobs, contract work in SMEs) and seasonable agricultural wage labour during peak periods. The increased mechanization in some sections of Ambala also implies that the demand of casual agricultural wage in the region is not consistently high, but instead there is a large number of rural workers who opt to take up non-farm industrial employment.

Kalka families depend on daily wage labour (construction, informal services), and short-term migration to urban areas as well as peri-urban vegetable/fruit sales. The accessibility of major urban centre by Kalka also enhances non-farm opportunities but also exposes the households to the competition and casualization of work in the urban centres.

Both tehsils exhibit a higher participation of women in allied activities (dairy, small shops, home based work) and formal participation of women in labour force is limited by societal norms and types of jobs locally available.

## **8. Key drivers of difference**

**8.1 Location to industry and nature of industry.** The industrial estates in operation by Ambala generate employment opportunities in the area; the economy of Kalka is more service and tourism driven because of its closeness to hills.

**8.2 The economics of landholding and cropping.** Larger irrigated farms in Ambala can sustain commercial cultivation and participation in agro-industries and smaller farms in Kalka are forced to produce high-value perishable goods and to take up wage labor.

**8.3 Urban connections and traveling.** The labour market in the Chandigarh area would favour Kalka, providing commuting opportunities; the local industrial basis would lower the necessity to commute to distant areas, but at the same time, would tie workers to local industrial patterns.

**8.4 Limitation of natural resources.** A common problem is groundwater pressure (heavy use of tubewells in Ambala particularly); the two districts will have to deal with water sustainability and price of inputs that can determine long-term viability of agricultural revenue.

### Recent trends and shocks

**8.5 Mechanization and consolidation of work:** In Haryana, mechanization and farm consolidation have been removing the need to use the manual labour in certain jobs over a long period of time and creating new jobs of machine operators and machine services. This is evident in Ambala in which intensive cultivation that is done through tubewells supports the mechanization processes.

**8.6 Regulatory shocks to input provision:** Input provision regulatory shocks in local reporting in recent years came in the form of pesticides/fertilizer provision restrictions in

the Ambala districts; the governmental intervention may have the effects of percolating into farm budgets and short-term livelihood security.

**8.7 Infrastructures and local investments:** Road renewal in Kalka/Morni and local development projects in Panchkula respond to construction demand and market access - an imperative to non-farm labour and market access to peri-urban producers.

**8.8 Environmental management:** The decreased frequency of farm fire incidents (state level trends) and the waterlogging events (Ambala industrial area) demonstrate the rise of centrality of environmental and weather variation to the livelihood stability.

Household vignettes (composite) and examples.

In order to put the differences into actual form, we may have two composite household vignettes constructed out of household patterns common to the districts:

Ambala smallholder (Mr. S.) - he owns 5 hectares, cultivates rice-wheat and sells sugarcane to a mill. He employs mechanized transplanting and harvesting contractors; his elder son is employed in a local engineering division on the industrial estate which earns him a regular monthly salary that helps the family in lean farm income years. The family increases revenues by leasing a small tractor to other residents. This combination indicates industry-proximate but irrigation-based livelihoods of Ambala.

Kalka peri-urban family (Ms. K.) - has 0.8 hectare of vegetable plot and some fruit trees in the farm border. Her husband is a daily wage construction worker in Panchkula, she is a vegetable seller in the city market and their young child works in Chandigarh hotels as a helper seasonally. Their incomes are non-discriminating and risky and depend on the wages in the city and the prices in the market. This is a peri-urban service based livelihood mix of Kalka.

## 9. Policy recommendations and implications.

**9.1 Individualized livelihood support:** Policies should be tehsil based. Agro industrialization-Ambala has advantages of increasing agro industrial links (improved market information, contract farming, value-added at local mills) and structural sound infrastructure against industrial shocks (drainage, power reliability). Kalka must support peri-urban producers - cold chains, clean market access, secure land-tenure solutions that will allow long-term orchard investments and investments in horticulture.

Training skill aligned with the local demand: Ambala house could be given some vocational training on SME technical skills (maintenance and quality control of machinery), whereas Kalka should focus on hospitality, construction safety, and small enterprise management related to urban and tourism demand.

**9.2 Water and input management:** The tehsils are under pressure of groundwater and the volatility of input. It should focus on promoting micro-irrigation, diversifying crops into less water consuming crops and the community should be given control over ground water. According to state agricultural programmes, NABARD credit forecasts, there is the space where specific credit can be offered to farm mechanization and water saving investments.

**9.3 Firm the social protection and workfare ties:** Seasonal and casual workers (in Kalka in particular) should have more access to social protection, formal contracting in construction, and connections to the schemes such as MGNREGA where available to have a floor during lean times.

**9.4 Development of market and value chain of horticulture and medicinal crops:** State horticulture data indicate that there is an increase in production in the state of Ambala in regards to horticulture and medicinal crops. Through smallholder support (FPOs and aggregation) in both tehsils, bargaining power will be increased and price volatility decreased.

## 10. Limitations

Public data available at the Tehsil level are skewed - much state data consists of district totals as opposed to tehsil time-series disaggregates. The analysis is based on a triangulation of various reliable sources (state statistical abstract, economic survey, KVK notes, district administration pages, local news) but could be improved with primary household surveys or with recent district statistical handbooks by tehsil to have more accurate income shares.

## 11. Conclusion

The tehsils of Ambala and Kalka also represent two possible ways of changing rural livelihood in Haryana. The agriculture in Ambala, which is based on irrigation, commercial oriented agriculture and a localized industrial base, provide farm households with access to agro-value chains and manufacturing. Kalka is more peri-urban and service-based, where household activities are characterized by a balance between smallholder horticulture,

construction and commuting to urban centres. The tehsils have similar pressures, namely its groundwater stress, the instability of its input markets and need to modernize agro-industrial support, and market and social security, tourism value chains and urban-labour security, respectively, but the policy responses have to be place-based, i.e. agro-industrial resilience and mechanization assistance in Ambala and market and social security, tourism value chains and urban-labour security, respectively. Such differentiated strategies would assist the two tehsils to transform their geographic advantages into less risky and more diversified revenues.

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