

*On the front page one can see several images linking to the title of this thesis. First of all a picture of women who are weeding and the landowner supervising the labouring women; this picture was taken on the road to Kavalgeri, East of Dharwad. On the left side of the frontpage there is an image of the Vedic God Varuna, the keeper of the cosmic order, the rta. This order is shown by the laws of nature and in the rite of the cultus and in the proper moral behaviour between human-beings (Van den Bosch, 1990). As a God, Varuna is associated with Agriculture, especially with barley, but he's also associated with rain and fertility. Due to this notion it's suggested that he originated among the agricultural tribes (Van Den Bosch, 1990, blz. 38). So in a way, people practising agriculture today, are the heirs of the old Vedic God Varuna and still 'serve' him. Nowadays he's a templegod and in this function he's the keeper of the Western region, as is the site (Southwest) of the research of this thesis. On the right side of the page is a picture of Sita, the wife of Rama. Sita is the daughter of the Earth-Goddess and she is also associated with the spring the earth and agriculture; she's the corn-mother. ([www.fas.org/news/reference/probert/D7.HTM#SITA](http://www.fas.org/news/reference/probert/D7.HTM#SITA)) But besides that, she's an example for all Hindu women, in the sense of how they should act and behave; Sita was totally obedient to her husband Rama (Van den Bosch, 1990, blz. 48). Hence one could state that the women are the daughters of Sita figuratively spoken.*

## **Chapter 1 Introduction**

### **1.1 Agriculture in India**

Agriculture is a very important activity all over the world. Not only does it provides us with our daily food, but it also has a huge contribution to the landscape as it occurs to us. A large part of the space outside cities is applied for agricultural landuse. In many places on earth all different kinds of crops appear to it's by-passers and are approached through it's tiller with mixed feelings.

Working in agriculture is to often a hard job with low payment and uncertain labour conditions; you'll never know when the rain comes and how much of it comes or if it comes at all. In India, farmers are dealing with all of these conditions as well .

For instance, one of the most fundamental activities, like sowing, can't be done without the rain which starts in June. It's necessary for the germination of the seed that the soil contains enough moisture; that is on an average of about 2-3 heavy showers (Rambousek, 1978). Though on the other hand they shouldn't be too heavy at the end of the rainy season, because the crops will be damaged.

Besides the climatological conditions, there are the physical conditions for the labourers. Working whole day in the hot, burning sun is very exhausting, especially considering the hard work that has to be done: control the bullock's ride with the plough, bowing down to clean the field, to sow and even harvest manually.

All of this doesn't pay well when you're a cooli (day-laborer). The coolis don't have so much choice; with so much unemployment, the pond is filled with job-candidates and in that situation the landowner can depress the wages very easily.

But it's not only the men who are exposed to these practices, the women are dragged in as well. Women from poor households also have to work the fields as a cooli and also women with an agricultural background from land-owning families, have to work in the fields. Although they don't earn a wage, they contribute to the family income for example by saving labour-force, so it's actually a payment in kind. Their work put in and their earnings, meet the survival needs of their families (Mittal, 1995, p.4).

But regardless the real content of a job or activity, tasks exercised by men are valued more prestigious than that of women in almost all Indian regions. For example, women are generally the unpaid family workers; when they assist in the family's grocery store, tailor-shop, knitwear, food processing, etc. their contributions are not valued as that of men, even when they do the same things; in the census tracks women are not recorded as workers (Mittal, 1995, p.31).

On the other hand, men knitting, cooking or performing any other kind of manual domestic job inside the home, is considered to be derogatory.

But for women, being a devoted wife and mother, doing all the domestic chores is their call. A wife should stay in the home; that brings status with it (Mittal, 1995, p.31).

Though this is in the ideal situation according to Hindu-customs (and Muslim). In practice all sort of reasons can lead to women becoming involved in paid activities.

By the time of 1981, about 89.5% of the female workers were engaged in unorganised labour; out of which 82.3% was involved in agricultural activities or allied occupations (Mittal, 1995).

Like in the domestic environment, women in agriculture also have specific tasks. This usually are the 'lighter' activities.

However, there are some occasions that women do take over the men's activities as well. Due to migration of male-labourers to the cities, their agricultural jobs have to be done by the women (Sharma, U., 1980), for example in Himachal Pradesh where Pahari (Hill people) women took over the men's labour.

Usually the male agricultural activities are more valued than the female labour, one would expect that it would gain more status for the women and gave them more freedom, but it was not as simple as that. Due to the fact that in the Himachal case it was 'unpaid' labour, made it work of an almost equal low status as doing the dishes and it only meant a larger burden to the women (Sharma, U., 1979).

Still, the absence of the husbands could be an opportunity for the women to gain more freedom and independence. Now I wanted to see if this was also the case in South-India, more specific, Hubli-Dharwad region.

## **1.2 Research-theme**

So I came to the subject of my thesis: Have the agricultural activities of women in the rural-urban fringe of Hubli-Dharwad changed, due to the commuting of their husbands to Dharwad or Hubli. Did they take over the men's activities and hence gained more freedom; were they able to choose the activities they liked most (whether male or female).

During the field-work in the Hubli-Dharwad rural-urban fringe, a test-questionnaire was held in order to find out if there took some commuting place at all and if the women took over the men's jobs. In a circle of about 10 km around Dharwad several different villages were visited. The translator went to search for a key-person within the village-community, where-after that key-person looked for proper questionnaire-candidates (i.c. women who were active in agriculture).

The outcome of the questionnaires showed, that there were almost no commuters and that the men who actually commuted, did their original agricultural activities after they'd returned home from Dharwad; the wives didn't took over any of the male's activities. So the thesis had to examine a different part of the subject. (In § 1.4 the methodological justification of the altered subject will be further discussed).

### *1.2.1 The real subject*

Since there has been established typical female and male agricultural activities, it seemed like a proper research-theme to examine this differences in the Hubli-Dharwad region. While Sharma (1980) did a research after women and all their activities in a village that was purely rural and in a large village/small town and later on did a research about women in an urban environment, it seemed interesting to me, to do a short research in the domain just in between, namely the rural-urban fringe. Besides the type of area, her location was also different; in the North of India, so in order to examine the Southern part, my research was set in the State of Karnataka, more specific in the Hubli/Dharwad region.

In order to get to a new research-theme, the original theme has been put in a broader perspective. Hence we come to the thesis-theme and research-problem : The role of Women in Agriculture in the Hubli-Dharwad rural-urban fringe. Also in regard for the development in the past 10 years; have things changed. However, this is difficult to examine; people themselves do also change, they're moving targets.

This thesis will focus especially on the type of activities women perform in the rural-urban fringe of Dharwad-Hubli; to see how their position is influenced by Caste, landowner-ship and demographic phase of the household.

Furthermore there has been examined if age, marital status and degree of education of a woman influences the kind of activities she performs.

Hereby has been looked at the traditional situation as well as the modern situation. This was done, both for women in agricultural activities.

Though the interviews took place in 20 villages and communities in the East- (black soil) and West-Country (red soil) of Dharwad, as well in the Northern- and Southern transition-zone, the results will not be analysed by each village separately, but it will be reduced to 4 types of villages. These classifications were made, based on the context-changing criteria of distance; are there any differences between the East-side (black soil) and West-side (red soil).

Besides, there will also be a comparison between the village-types in the East-side of Dharwad and the West-side and of them in the transition-zone. From this, some specific research-questions were derived.

### *1.2.2 Research questions*

In order to make the matter of women in agriculture in the rural-urban fringe more clearer and to come to a proper description of their position, several research-questions were formulated:

1. How was the traditional situation for women in agriculture and in other types of employment described in general terms?
2. How can the modern situation for women in agriculture and other types of employment be described in general terms?
3. Are there differences in the kind of agricultural activities that women from different households perform, distinguished after landownership, caste and demographic phase of the household?
4. Are there differences in the kind of agricultural activities the diverse women perform, considering their age, marital status and level of education?

5. Are there differences in activities women from different households perform in other employment (agriculture excluded), distinguished after caste, land-ownership and demographic phase of the household?
6. Are there differences in the kind of activities the diverse women perform in other employment (agriculture excluded), distinguished after age, marital status and level of education?
7. What are the largest problems women are facing in agricultural society?

All these questions will be answered for the types of villages/communities; regarding West, East, Northern Transitionzone, Southern Transitionzone.

### 1.3 Operational definitions

In order to come clear with an understanding of the definitions and terms, it's useful to give a description of the most important definitions ( and often the most used ones) in this thesis. In that way, the reader won't get confused if the explanation of a definition may be ambiguous; they will now know what is meant.

#### Agriculture

Usually with agriculture is meant all the activities in the primary sector, both including tilling the land and keeping dairy cattle or meat cattle. But in India, especially in the case of Dharwad, it's explicitly and only used for tilling and working the land. Professor Nidagundi and the translator used the term agriculture in that sense.

Probably this meaning of agriculture is originated due to the fact that there are hardly any people who merely own dairy farms in India; people that possess land, always till crops on it. Cattle is a co-activity and is referred to as cattle-management. But in the same way, there's the distinction between horticulture (gardening) and orchards (mango, Jack-fruit), while in the common meaning of agriculture this is also included. When there's given the agricultural land-use in this thesis, it's about the cultivated land-area; the net area sown. (Mohammad, N., 1978, blz. 53), not including dairy farming.

#### Rural-urban fringe

The rural-urban fringe is a kind of transition zone between a fully urbanised/non-agricultural type of land-use to a merely rural/agricultural land-use. within the rural-urban fringe there can be found a mixture of these two types of land-use; ranging from the place where agricultural land-use appears just outside the city up to the place where villages contain several spots with urban land-use or at least where some citizens commute daily to the city to go to work (Bentinck,2000)

#### Caste

It used to be the case that caste and status agreed with each other. Already in the pre-British era there had existed a caste-specific socio-economic stratum in society, meaning that the high-castes were also the propertied classes (Bronger, 1996). At the top of this stratum were the dominant landlords (khudkhasht in North-India and Mirasdars in the South), as a rule Rajputs and Brahmins. Next to them there were the long-lease tenants, then tenants with no fixed land-rights and at the lowest level the agricultural labourers, the coolis, mainly people from the scheduled castes.

The high-castes were rich and the low castes and untouchables were poor. During the British ruling, this arrangement in society kept on existing.

In the villages had long been a system in vogue that's called the Jajmani system. It consisted of economic relations between different castes, especially the dependence of landowners and the artisan and service-castes towards each other (Bronger, 1996). When every member of the family performs their traditional caste-occupation, for instance priest, potter, carpenter, washer, or shoemaker, etc., then they depend also on the services of other castes for their daily needs. The person who receives the service is called the 'Jajman' and the person who gives the service, is called 'Kamin'. As payment for the service, the Kamin receives money or a payment in kind, this depends on whether the Jajman is a landlord; landowners will only pay in kind (Bronger, 1996). In a lot of cases the Kamins, the servants, will get their payment in the form of a fixed quantity of grain and straw at harvest season (Rambousek, 1978). The height of the reward is set to the achievement of the Kamin; how often has the task been fulfilled. It is not surprising that the higher castes can make more often use of the services of the Kamin, than the lower castes and therefore will pay more. Though caste is very determining, the relationship between the Jajman and the Kamin is one of an even more economic character. It's even possible that members of the same caste have to pay a different amount of money or goods for the services performed by the Kamin (Bronger, 1996).

As many countries, India has also developed an industrial sector, mainly after World War II. And with this, there was created a whole new set of jobs (Bronger, 1996). Jobs that had not been found in the traditional agricultural society and hence were not represented in the caste-system or Jati-system where each caste represented an occupation.

### **Difference Jati and Varna**

Jati is the group in which a person is born (Bronger, 1996); it's the original occupation from the people. On the other hand there is the Varna, this is the social status of the Jati. Varnas are divided into five groups: Brahmins (priests), Kshatriyas (warriors), Vaishas (merchants), Sudras (artisans, servants and labourers) and untouchables. Occupations that have to deal with dead for instance, are 'unclean' and are lower in rank. From these groups, the first three are the so-called people of 'double-birth' (dvija), through meanings of putting on the holy chain (upanayana) (Bronger, 1996). In different states, the same Jati can be a different Varna. For example, in North and Middle India the weaver-castes belong to the scheduled castes (untouchables). But if you're lucky you're a weaver in the southern part of India, because there the weaver-castes belong to the middle Varnas. The same occurs in the case with the Dhobis, the washermen; in Uttar Pradesh, Bihar, Bengal, Orissa and Madhya Pradesh they belong to the untouchables and in the South they're still Shudras, though at a low level (Bronger, 1996). But the upper three varnas, the 'clean-castes', can't have their laundry be done by people from the scheduled caste, so they do it themselves. Therefore there is not much work for them and hence they're not very common in the North and Middle. Due to the different ranks they have in different states, the spatial dispersal of the Dhobis has been influenced by this fact. In the villages in the North and Middle live only a few members of the Dhobi-caste, unlike the villages in the South of India.

On the opposite of the weavers and washers, there are the palmjuice-squeezers; untouchables in South-India, but in the North and Middle they are ranked higher.

But not only Hinduism has castes, other religions like Muslim, Jain and Christianity do also have. Here is, like the Hindu castes, a hierarchy existing. And then there is the case of the Lingayats; a 'Hindu-sect' in Karnataka.

### Lingayats

Lingayats have, next to their traditional caste-occupation of farming and agriculture, also a division into seven sub-castes like priests, hairdressers and washermen (Bronger, 1996). The sub-castes apply to endogamy due to a stringent hierarchy as in the other Hindu castes. Originally, the Lingayats come from North-Karnataka. Their name means 'one with the Linga', a stone in a phallus-form that is a reflection of Lord Shiva, which they wear by a string round their neck or upper-arm or at the front of their turban (Rambousek, 1978).

In the Hubli-Dharwad area, nowadays, they still have an important role in society. Beside the fact that most landowners in this region are Lingayats, especially the ones with larger plots of land, a great part of the leading jobs are occupied by Lingayats. They are key-figures at least in this part of Karnataka.

## **1.4 Methodology and data resources**

In order to find the answer to the research-question, I first started to collect secondary data to the research-topic in the Netherlands. In this way, I could already form an image about the situation of women in agriculture and of the situation in Dharwad.

I also collected secondary data on my topic through the Agricultural University Dharwad in Dharwad.

### *1.4.1 Primary data-collection*

But to come to a proper conclusion, it is really necessary to collect data in the field. First of all, you need to see the things with your own eyes, hear the sounds with your own ears, smell the fragrances with your own nose and taste the relish with your own tongue in order to know what it's really all about. Without your own experience on the spot, it's impossible to interpret the secondary data in a right way. Secondly, there were simply no data of my topic available for the State of Karnataka in general and of the Hubli-Dharwad region in special.

During my field stay, as stated before, I had to reconsider my subject a little. So after a first round in-depth field-interviews (Appendix 1), it became clear that there were only few women with an agricultural background who took over the men's job when they worked in the town of Dharwad or Hubli. Most of the men performed these tasks when they came home after work, while in most cases there was no commuting at all.

We visited some villages in a radius of 10 km of Dharwad to do these test-interviews first; a distance which could be travelled easily by bus from Dharwad. And besides the people interviewed, my translator and professor Nidagundi said that it wasn't very common in the Hubli-Dharwad area for people who worked in agriculture, i.c. landowners, to commute to either one of these cities. The landowners worked on their land, they didn't often have jobs in the cities.

In order to find suitable interview-candidates, we stopped by houses with land around it and asked if there were any females who worked on the field. Most of the times it was the landowners wife we spoke to, but occasionally we met coolis. For the commuting-subject however, they were less interesting, due to the fact that their husbands usually didn't have land of their own and for that matter, these women couldn't take over the men's job at all.

During the field-interviews, I was assisted by a translator. He was a phd-student English at the Karnatak University in Dharwad and he translated the questions into Kannada. Most of the common people didn't speak English, so it was very good to have a local with an agricultural background who knew something about the surroundings and the culture and with whom I could communicate at a certain level.

After this first interview-round, I came to the conclusion that my first research-question was not suitable to examine in the Hubli-Dharwad rural-urban fringe. So I had to come up with another research-question.

Together with professor Nidagundi I looked after a new topic. I went to the library of the Agricultural University of Dharwad (not the same as the Karnatak University) to collect more secondary data and after studying the literature I came to a new subject. The research-theme would now emphasize the activities that women do in agriculture, with regard to the differences between the East- and West-country of Dharwad, in relation with caste, land-ownership, age and diversification of means of support besides agriculture.

After I'd had finished another round of field-interviews with regard to the new research- question. At this stage, I started with open-interviews about all the activities women do in agriculture. The goal was to gather as much information as possible about this subject.

For this round of interviewing I choose some villages near to Dharwad to get a better look at the subject first.

The candidates were selected to their agricultural background; my translator usually went to a big, nice-looking house which he guessed, had rich, agricultural people as inhabitants out of which a 'key-person' could be derived in order to approach the rest of the village.

And they almost always were agricultural people; most of the time Lingayats, the original agricultural caste, sometimes others, like Jains. Due to the fact that so many work in agriculture and that large landownership would lead to prosperity, especially in the past, it was not surprising that these residents were agricultural people.

The translator could see if a house belonged to Lingayats, because of the white chalk stripes in front of the house. And of course the larger the house, the richer the people, that's one of the laws that goes almost everywhere in the world.

When you wanted people to co-operate with you in India, one had to contact first an important, most of the times, a rich person with authority in that particular village. Because of the hierarchy in the Indian society, especially that of the village, peasants and other low-job people do anything for someone above them. If you would approach low-status people first, then all the higher ranked and respected people wouldn't want to have anything to do with you. So this 'key-person' would lead us to the people I needed and that could give me the information I required. He knew what people were active in agricultural activities and where they lived or worked. Most of the time this key-figure sent a helper of him to go get some of these agricultural female labourers so that we could interview them at his house and sometimes he would just give the information where to find the women who worked in agriculture; whether as a coolie or as a landowner's wife.

After processing all the answers gathered during this interview round, I came towards more specific information about women in agriculture. It became clear that to a certain extent, the answers given by the respondents corresponded with each other; varying only between a few set of options. So out of these questionnaires, I derived the 3, 4 or 5 most given answers and put them as multiple-choice options in the next questionnaire; also leaving space for deviate answers.

This time it was a closed questionnaire, so that it would be easier to process the data-outcome. After testing these closed-questionnaires, I still changed a few things, but not so much the purport of the questions, as well as some extra options of the multiple-choice answers and an additional question to get the answers more complete. So came the final questionnaire (Appendix 2), used for collecting primary data, into existence.

Now we went to villages a little further away from Dharwad; 10-15 km.

Most of the villages visited for the field-research were villages with mainly agricultural landuse. One could -on the surface- argue that this was the country-side. However, it surely was a typically rural-urban fringe area; next to agricultural landuse, there also appeared some brick-industry at certain spots and an oil refinery and all the villages laid within a 10-15 km radiance of Dharwad or Hubli, so the citizens could travel easily up and down to the cities of Dharwad and Hubli. The villages and communities (a gathering of houses to small to be a village) were under a significant influence of these towns.

The villages and communities were selected, almost equally distributed between the Eastside of Dharwad (37) and the Westside (32) and in the Northern Transitionzone (11) and in the Southern transitionzone (13).

This time we went by scooter to these villages, instead of going by bus, so we could also go to some more backward located villages.

Still, the approach of selecting the interview-candidates was the same as described before. In all the villages we interviewed about 10 women on an average; though they were all active in agriculture, they weren't all landowners, but coolis as well and sometimes both.

In addition to these method, we sometimes just picked women working in the fields to interview them. Like this, a better mix of candidates was created, due to the fact that in the villages we depended more on the acquaintances of the key-persons and hence there was more bias in the people selected; with interviewing just women working the fields without an intermediary, we accomplished a more reliable outcome of the questionnaires.

The reason why not all the interview-candidates were selected like this, was because the research was done in the so-called 'off-season', from March-June; in this period hardly any agricultural activities were performed. Only in irrigated areas and towards the end of May, there was some work performed in the fields.

These irrigated areas were situated at the Eastside of Dharwad, hence agriculture (women sowing, weeding, etc.) could be performed throughout the year at this plots of land. Though, towards the end of the research-period, the last of May and the beginning of June, the preparation-period (both in the East- and West-Country of Dharwad) started. In this period there were here and there already women active cleaning the fields and therefore becoming an interview-target.

#### *1.4.2 About the questionnaire*

The most important instrument of primary data-collection is, of course, the questionnaire. Information can be derived from candidates very directly in their own daily environment.

First, the building-stones of the questionnaire will be discussed, as in the second part the problems and the restraints will be paid attention to.

#### Variables

While the research-question of this thesis is about the role of women in agriculture in the Hubli-Dharwad region, it could not be proper examined without making this question workable; what are the features of this role, how can it be elicited?

To answer that question, first, the correspondents' villages have been classified into four groups based on context-changing factors. These context changes are based on the differences in soil; the red soil in the West, the black soil in the East and both the transition zones; the Northern and the Southern.

In chapter 3 these types of villages will be further discussed.



Next I've looked at different characteristics of the households of the women interviewed: landowner-ship, caste and demographic phase of the household. Then given the situation of a certain type of household, I looked at the individual level of the women; age, level of education and marital status.

All these different characteristics, were used as independent variables; they may be the predictors of the effects being examined (Flowerdew, a.o., 1997, Parfitt). This makes the role of women in agriculture the dependent variable.

So the questionnaire was mainly designed to classify ( Flowerdew, a.o. 1997, Parfitt) people; the questions were almost all about the characteristics of the women and their circumstances. Merely the last three questions were designed to trace opinions/attitudes/beliefs; did they influence their husbands in the decision-making process at the farm and the kind of problems the women were facing in whatever kind of domain.

#### *1.4.3 Problems and restraints with regard to the fieldwork and the questionnaire*

Whenever a quantitative survey is used to examine a subject, it's very hard to get a proper model which will work in practice and conducts the results one's hoping for. There are all kinds of tricky issues and aspects that can be overlooked in the process of creating the questionnaire and that will lead to errors.

Two kind of issues must be kept in mind using a questionnaire; reliability and validity (Flowerdew, a.o., 1997, Parfitt). The latter one concerns the content of the questionnaire itself; does it measure what it was intended to?

When observing my survey, I think that after testing and testing again, I got a pretty good look at the problems of the questionnaire. I could be content now with the design and construction and the format of the questionnaire. Though there were still some shortcomings in regard to the questions, I think the validity of the whole survey was enough satisfying.

Reliability comes down to the fact whether the results can be replicated (Flowerdew, a.o., 1997, Parfitt). If I would do the survey with these questionnaire a second time, would I get the same results all over again. In other words is the outcome of the survey representative for it's population used.

Different types of errors may underpin the reliability and validity of a research. They can be subdivided into sampling errors and non-sampling errors. Sampling errors relate to the way in which respondents have been selected.

A good sample requests a certain amount of participants; the smaller the sample, the higher the probability that the outcomes of the survey are atypical for the target-population (Flowerdew, 1997, a.o., Parfitt). Differences will then occur between the sample and the population it was derived from. The smaller the sample, the greater these differences.

Moreover the sample should be randomly selected, this means that every person of the population has an equal chance to be selected for the sample.

When these conditions aren't observed and hence the sample frame is imperfect, it's likely that a sample bias will be introduced (Flowerdew, 1997, a.o. Parfitt).

Considering my survey, one could argue that the sample-selection was not random; I didn't select candidates out of the whole village-population. Though because my research-theme was merely about the position of women in agriculture, there was no need to interview women who didn't perform any agricultural activities. Therefore, selecting candidates throughout all village-citizens wasn't desirable. The first requirement candidates had to come up with, was the fact that they had to work in agriculture. In every village where I interviewed women, I specifically asked about the agricultural background of the persons to be interviewed and hence they were selected.

As a result, the outcome of the questionnaire is only valid for women (and their families) with regard to agricultural activities, not for all women in the villages.

Looking at the size of the sample, it was sufficient. I visited 20 villages and communities and in every village 7-10 interviews (with a total amount of 125), were held. The people interviewed, were almost equally divided among the West-side (44) and East-side (45) of Dharwad and both transition-zones in the North(17) and South (18). Like this, I think it was also possible to make a good comparison between both the East- and West-side, with regard to the nuances of the transition-zones.

The other type of errors that may occur are the non-sampling errors; errors introduced by questionnaire design biases of one sort or another (Flowerdew, 1997, a.o., Parfitt). Within this category there can be two types of errors distinguished.

At first the response errors; introduced during the process of interviewing. Secondly, errors which arise through biases in non-responses, the so-called non-response errors (Flowerdew, 1997, a.o., Parfitt).

When it comes to the response errors, one has to think about situations where the questions asked, may not be understood as intended to by the interviewer or that respondents feel pressured to give answers in a certain direction due the presence of their boss or just because they give socially accepted answers, especially when they're in a group. And sometimes people want to please the interviewer and give answers of which they think the interviewer wants to hear.

Another problem can be the interviewer him/herself; sometimes they have the tendency to send the respondent to an answer that fits the relationship hold before, especially when the respondent gives vaguely or ambiguous answers (Flowerdew, a.o., 1997, Parfitt).

During my interview sessions I was accompanied by a translator with whom I had discussed the questions and the meaning of them before. So he knew what was meant by the questions and he was able to ask them in the a right way. In this case, having a translator was enhancing the quality of the interview-sessions - where usually it's better to have as less persons as possible involved in gaining information from respondents, because with every extra person you loose pure data; everybody gives a certain interpretation to the data, mostly unconscious - he knew the language and expressions exactly. He knew the culture and habits. So there was only a slight chance the questions were misunderstood by the respondents and the answers by the interviewer.

On the other side, having a translator that was part of the whole culture and structure, involved also a risk. He might think that he would know all the answers already due to the fact that he was partly in the same situation as the respondents. Sometimes he did give comments on the answer given by the respondents; but always as a footnote, not as an official answer of the respondent. I could still fill in the original respondent's answer.

Usually the women interviewed were in a group; whether together with their family or with fellow coolis and sometimes with the landlord present. This will have influenced their answers. But the questions were mainly designed to classify people, so the effect it had on the answers, was almost negligible.

One can understand that the marital status, caste, etc. are not a subject for a cover-up due to social conventions between coolis or the landlord. These things are all commonly known among them. The same goes for women from agricultural families; family and other villagers mainly; they already know these things.

Working hours, wages etc. might have been more obvious subjects to give not an entirely open and honest answer about (they could have been afraid that their landlord would 'punish' them if they for instance would say anything about long working hours and low wages and hence made the boss look bad), but the same working hours and wages were subject of only little differences between the several women interviewed. So it was likely that they also told the truth about these things.

However, the last three questions were about opinions and attitudes and the answers therefore more sensitive for the presence of others. Especially women from

agricultural families may not have given the real answer to the question whether they influenced their husband in decision making. Due to the presence of the husband and family they didn't dare to say that they did, because it may affect the husbands pride and status when a woman gives him advice. On the other hand influencing can take place more on a subconscious level and hence is not recognised as such. Still, sometimes it was useful to know, in case the wife influenced her husband, at what kind of items the advice was given. It could reveal a trend for instance. In the few cases that the boss or landlord was present during the interview-session it might have occurred that people wouldn't give straight answers about wages and working hours, but still these answers agreed with the times and loans of coolis where the landlord wasn't present. Only during one session it was very obvious that the coolis interviewed, gave socially accepted answers, because of the presence of their boss. None of them was facing problems (question 31), though as soon as the boss was gone they started complaining about the work and the boss, still a little too much according to my translator, because of my presence they might have hoped for money or something. These answers were not useful for the research. Despite these events, I think the respondent-errors didn't interfere strongly enough to give an invalid outcome of the whole research.

Besides response-errors, errors in the survey may occur through non-responses (Flowerdew, a.o., 1997, Parfitt). There can be refusals or non-contacts (people are not at home or have moved-away). Especially when it's necessary for the research to have a cross-section of the total population in order to come to an representative outcome and the non-responding group differs in key characteristics from the responding group, this can lead to a non-response error bias (Flowerdew a.o., 1997, Parfitt). For example, when one would visit or call the respondents during-office hours, chances are high that only the elderly or unemployed people are at home, so the younger, working group is not measured and represented in the outcomes of the survey.

The problem of refusal may sometimes be influenced by the interviewer; you have to approach respondents in a certain way or they may simply not trust the interviewer, but in other cases it's just the subject matter that hasn't their interest, or they have no time or just a combination of these factors.

All of these non-response errors cause a greater bias when the population significantly differs in key-characteristics from the sub-population of respondents. Often, the group of people who will be less likely to co-operate with the interviewer can be identified in advance (due to previous surveys) or after a pilot survey. After identifying these groups, the interviewer can anticipate on the bias-problem for non-response and hence adjusting the interview-design or selecting procedures in advance, rather than adjusting the results for non-response errors afterwards. Nevertheless, even after decent preparation, one always has a chance that certain people don't react to a questionnaire or refuse an interview and therefore it's always necessary to hold this in mind while processing the research data.

Regarding my own research, the non-response bias wasn't of so much influence while I didn't use a random sample for approaching the interview-candidates. My goal was to get a very specific group, women working in agriculture, not a total village-population with all its differences. Though, mostly the key-person within the village lead us to a lot of different women, they could have withheld certain persons from co-operating with me.

This problem was solved partly, by approaching different people within a village, so the chance to miss certain representative groups was highly reduced. Besides we interviewed women working in the fields along the roads. In this way, at least, different kind of agricultural women were interviewed.

## **1.5 Structure of the text**

First, the theoretical background will be discussed in chapter 2. Here, the agricultural situation in India in general will be described, as well as the role of women in the agricultural activities in India. This also includes a closer look to the developments in agriculture in India over time. All the aspects of agricultural society, including caste, will be dealt with.

Chapter 3 will deal with the geographical context of the research area, the Hubli-Dharwad rural-urban fringe. In this chapter the physical-geographical conditions of the State of Karnataka,

especially of the Dharwad region will be discussed, as well as the agricultural situation in Karnataka. Both by sector and region, including a description of the East- and West-side of Dharwad. In this chapter the classification of the villages visited during the fieldwork into 4 groups will also be performed, both for the East- and West-side.

The following chapters will handle with the questionnaire results; chapter 4 give the outcomes of women in agricultural activities, whereas chapter 5 will deal with the women in non-agricultural activities.

The last chapter, chapter 6, contains the answers of the research questions (or at least tries to) and hence the conclusions are drawn.

## Chapter 2 Theoretical framework

*This chapter will discuss some different theoretical views on the topic of women in agriculture in India.*

### 2.1 Agricultural situation in India (a short general view)

India is very much an agricultural society. Not only by numbers of employment; about 2/3 of the total amount of working people gain their income from agriculture and it contributes for 1/3 to the national income (DeSouza, a.o., Desai, 2000), but also in terms of religion and culture.

In the old Hindu society, every day life very much was organised throughout the agricultural structure and rhythm. Every caste had its role in the village community. The Brahmins as priests were fully involved in the agricultural society. They lived among the other inhabitants and performed the religious rituals and practices among the rest of the village. They didn't live separately from others to focus on the spiritual side. All the other castes also had each their specific task in this environment, like shepherds, washermen, palmjuice-squeezers, hairdressers, fishermen, tailors; all of them were in one way or another depending on each other, there was this balance in needs and services. One caste, even when they were of a higher Varna, needed the other castes to provide the daily products or perform services they needed. Although not of the same rank, every person was valued by all the other Varnas and Jatis in a certain way. Together, all the Jatis made that the all day village-life kept going. Hinduism as a religion and a culture was very much linked to the agricultural society; that contained its roots. It influenced each other; the agricultural activities and daily routine and Hinduism

Considering this, it's not surprising that people in the village say: Our culture is agriculture (Gundur, the translator told this). Agriculture was very much a way of life and sometimes still is nowadays.

#### 2.1.1 Physiography

India is a large country with both a lot of different landscapes and climates and a lot of different languages and communities. All these things influence the way in which agriculture was performed and organised.

Like many developing countries, the environmental factors play a major role in agriculture. Due to the absence of wide-scale spread high-technological applications, farmers don't have the disposal of machinery and products to overcome the physical restraints. Though not in a deterministic way, these physical factors control the art in which agriculture is performed (Mohammed, N., 1978). Combined with all the social factors, Indian agriculture exists of a fine mosaic of different types of landuse.

This paragraph will not discuss all the different types into details, but limits itself to the broad lines.

Several aspects of the physical elements influence the way in which agriculture can be practised. Precipitation, soil and relief are the most important ones. Looking at precipitation, India has a clear East-West gradient from wet in the East, to dry in the West (Rajasthan) (Blij, A.J. de and Muller, P.O. 1998). All this is caused by the monsoons; monsoon is from the Arab word 'mausim' and means: season. There are two monsoons in India; the Southwest, or summer-monsoon and the Northeast or winter-monsoon. Due to the earth-circulation, the wind changes twice a year its direction, hence transporting air of different humidity (Bronger, D., a.o., 1996, p. 58) .

Between December and February/March, the dominant wind is the Northeast monsoon. The air-stream comes from the Asian continental high-land and as a result it's a dry, stable wind. In this stage it's still a cool wind. This period is the winter-period in India.

From March up to May temperatures are rising quickly, due to increasing strength of the sun's radials. In this season, it is still dry and very hot, it's summertime. In this season the landmass heats up slowly and in these months a large low-pressure system is formed. The wind-direction turns now and the Southwest monsoon enters the subcontinent (Bronger, D., a.o., 1996).

This Southwest monsoon draws humid air from the Indian Ocean onto the landmass. Days after days it's raining and often thunderstorms, cloudbursts and storms come with it. Everything turns green. Coming from the Indian Ocean, the monsoon hits the different parts of India at different times, though starting at the end of May in the south of India, by the first of July, when entering the west of Rajasthan, every state is covered by the Southwest monsoon now.

Not everywhere in India the monsoon is felt the same; orography and the duration of the monsoon leads to regional differences in rainfall.

In the western part of India, for instance, the Western Ghats force the moist sea-air to rise quickly and let the rain come out. Somewhat behind this Ghats, in the Deccan, it's much drier.

And in the Northeast, rainfall rises again, due to the fact that the area is surrounded by mountains, the air rises here and the Southwest monsoon air-streams convert here. In the West of India lies what appears to be the most driest area, with western Gujarat on top. Here, the summer-monsoon only lasts for two to three months and from the beginning of July, the monsoon blows very closely aside or even along the southern part of the Arabian Peninsula, hence it travels only little distance along the Arabian Sea. So the air doesn't contain so much moist. Even more determining for the dryness is the fact that the air-streams diverge in this part; they spread from a Southwest up to a South, Southeast direction and the falling air reduces the humidity of the flat monsoon air-stream even more (Bronger, D., a.o., 1996). Still, of the total amount of the annual precipitation, almost all of it falls during the summer-monsoon. Exception to this is the Utmost south of India; Tamil Nadu and the Southern parts of Karnataka and Andhra Pradesh. Here, there's a bi-modal rainfall pattern, which gives rain by both monsoons, even the most during Northeast monsoon, during Rabi-time (Van Dijk, 1989). After months of rain, the system eventually breaks down; the monsoon only gives periodic rains before fading away entirely.

This process finds its origin already in July; in the North, temperatures are dropping. By this, the low-pressure system loses its input and eventually collapses; this happens first in the west of India at the beginning of September. Over a period of two months the return is then completed. Halfway of October, almost the entire Indian continent then is dry. Only in the most southern part, there's still precipitation and December is a period of cyclones.

And so at the time of October, another dry season starts, in by far the largest part of India. For the agricultural production, the monsoon is indispensable. It plays a significant role in the whole agricultural process.

When it comes to relief, India has clear North-South zones. The Himalayas in the North (and within this area the same precipitation gradient as described above), next transitional foothills leading to the river basins below. These river lowlands occur in the West on the out-fled of the Indus valley, following the Ganges valley and ending in the delta of the Ganges and Brahmaputra. Then moving southwards, Plateaus are dominating the southern part of India (De Blij, H.J., a.o., 1998) The Deccan is the largest plateau, but there are further to the north still two other plateaus: the Central Indian Plateau (west) and the Chota-Nagpur Plateau (east). On both edges of the Deccan Plateau, lie respectively the Western and Eastern Ghats (hills), but they

encompass only a small surface of the entire plateau-area. Though this doesn't mean that this Ghats, especially the western, are slightly of any interest. Like stated before, the onshore winds secure the western Ghats from a lot of rain. Due to this and the elevation, one of India's most productive farm areas lies here (Bronger, D., a.o., 1996).

### *2.1.2 Influences*

Now it's time to take a closer look at the influence of these variables, especially the monsoons, towards agriculture.

In order to grow crops, you basically need two things: energy in the form of sunshine and water, mainly in the form of precipitation (irrigation is in some cases also an option, though the water you will use, have to be taken somewhere; a river or a lake, but both are at least partly filled with precipitation), without these two things it's impossible to cultivate any crop. For India, by far the largest part of the annual precipitation falls during the summer-monsoon as described above. In other words, it's not astonishing that the monsoons have significant influence on agriculture.

Both the summer-monsoon and the winter-monsoon have their own influences. Hence, each season has it's own type of crops that is grown; during the winter-monsoon, in the cold season, the crops grown are known as Rabi crops. The crops that will grow in the rainy season, during the summer-monsoon, are Kharif crops (Mohammed, N., 1978.) .

### *2.1.3 Kharif and Rabi*

Kharif crops are sown right at the beginning of the summer-monsoon in the first and second week of June. The monsoon rains are very important for the Kharif crops; it has to be raining in order to sow the seeds well and to let them germ properly. Then in September, most of the Kharif crops are ready for harvesting (Mohammad, N., 1978). Rice, maize, millets, sugarcane (although sugarcane is not the real archetypal Kharif crop; it's a continual Kharif crop and has to be sown in May/June and is harvested from December to March) and several pulses, under which arhar (pigeon peas) are the most important Kharif crops.

Crops that need to be sown in October, at the beginning of the period of the winter-monsoon, are referred to as Rabi crops. They germ and grow during the dry season and can be harvested in March/April (Mohammad, N., 1978). Main crops of the Rabi season are: Wheat, peas, gram, oil seeds (rapeseed, mustard, linseed), lentils, potatoes and even wheat mixed with barley. Although these crops don't need so much water as the Kharif crops; they get there water from the available moist in the soil after the monsoon, a significant part of these crops needs to be irrigated at least once during the growing period, except for lentils and gram.

## **2.2 Agriculture in the past**

### *2.2.1 Ancient times*

When it comes to analysing the past, it's always an issue where to start; do you start 6 billion years ago at the very beginning of the earth, so to speak, or in the recent past. One has a broad scale of varieties. Most important criteria is the purpose for which you will use the past. Is it just to give some information on how things used to be at a certain time, or is it necessary to tell something about the past in order to understand today's reality (if not always the case, though for some subjects history's role is even

more determining)? Not every era has as much influence on the present or has left still visible marks; one should pay attention to this.

In this case, the purpose of mentioning the past is to compare the performance and significance of agricultural activities in the early days with agriculture in the present time; although main focus is to inform about the past situation, it's also of substantial importance to show the development of agriculture over time.

For this goal, it's needed to examine an era before British rule, in a time without European influences, in order to get a clear picture of the 'original' Indian society. Proper point in this to start, is the time of the Mogul empire; almost the entire Indian subcontinent was under the rule of the Muslim dynasty of the Moguls, with a short history of the beginning of the Hindu-culture in India.

During the Mogul-time, the Indo-Aryan tribes lived already in the northern part of India where they eventually found their definitive place; they came from Persia to the Indus valley between 2500-1500 B.C. and lived as nomads. The native people, who lived from irrigated agriculture were forced to live in the South of the Indian subcontinent or were captured as slaves. These Dravidic people were referred to as Sudras in Sanskrit, servants. Beside the three status-groups of Brahmins, Ksatriyas and Vaishyas, they became the fourth and lowest group. In the Vedas; the Aryan's leading religious traditions, the original inhabitants were described as people with a dark or black skincolour and a flat nose. These Vedic writings later on became a very determining religious source and the Brahmin dominated Hinduism was very much inspired and directed from the holy traditions of the Indo-Aryan tribes.

Later on, these Aryans moved from the Indus valley to the Punjab (12th century B.C.) and further along the Ganges (8th century B.C.). Still living as semi-nomad tribes; this also had consequences for the old Vedic ritual.

Though at the time the Aryans moved into the Ganges delta, an exchange with the local rice cultivating people took place. And slowly, the old Vedic tradition was turned into the traditional Hindu culture. The semi-nomadic life-style was traded for one of a more permanent stay and from the 5th century till the 12th century, the classic Hinduism with it's three important Gods (Brahma Visnu and Shiva) crystallised to it's fullness (Van den Bosch, 1990)

Now at the time of the Moguls, in the 16th/17th century, this classic Hindu-society still existed. So it's a good time to start looking at the way, in which agriculture was performed.

Agriculture was the backbone of the Mogul-society; almost all the people lived in villages whether in a direct or indirect way from agricultural activities (Bronger, D., 1996). For instance, the woodworkers who repaired the ploughs or the artisans making jars to carry the irrigation water to the land or the basket-makers making baskets for the harvest and instruments for threshing the grains.

These villages also were very much self-sufficient. Most things that were needed for daily life were produced or performed within the village. Besides food and pottery, even all the services, like washing clothes, money-loans and religious services were provided. Local economics were decisive; they were independent from broad regional economical influences. Money circulated already, but only for paying taxes to the Mogul. The daily products and services were obtained by a system of barter, which was closely connected to religious rituals and the caste-system; the Jajmani-system. Washer-men, artisans or the hairdressers gave their services in return for a fixed part of the harvest.

Agriculture was performed at a rather low level with simple implements (though the ploughs for example were adjusted; they only scratched lightly the soil, hence drying up of the soil was avoided); but this didn't mean that the agricultural productivity was of an backward level. The agricultural output in India by the time of 1600, was equivalent to the West-European agricultural production at the same time.



Land and labour were plenty available and while the costs were also low, workers didn't have to be paid much and the implements were only simple, hence easy and cheap to make, it was possible to till only the most fertile plots of land. Result was a large surplus of agricultural output.

Due to this, it would have been possible to gain a certain level of welfare. But the Mogul-empire levied taxes only on land and yields. So the agricultural sector had to bring in all the State's revenues. Hence, with taxes being 25-50% of the yield, it's not surprising that any kind of agricultural surplus quickly was reduced (Bronger, D., 1996). Together with the development that the State needed more and more money, the pressure on agriculture became so high, that the mass of farmers and peasants impoverished quickly in the early 17th century (Bronger, D., 1996)

Agriculture was in the Mogul-time only used to drain wealth from the country-side towards the cities and the state's treasury. Farmers merely had the subsistence minimum; hence they didn't had any money to invest in improving their techniques and yielding. And even if the farmer could effort it, he wouldn't, because the Mogul would have taken away the whole surplus value. Hence in this Mogul empire, it lacked every condition to come to an industrial development and initiate a growth of welfare (Bronger, D, 1996). Caste was also the most important social system and it was a rather stringent one. Everybody still followed their caste occupation and labour was very much restricted to ones own caste. But besides that caste was the leading ordering principle socially, it also corresponded with the economical caste. The highest castes also were the highest class.

Brahmins, Bhumihars and Rajputs paid most of the taxes, indicating that they had access to large surfaces of land; in the central Ganges Delta, 25% of the people paid 95% of the taxes. Though even if there couldn't be draw any conclusion on land-rights by this, it almost for certain mend that these castes had a owner-right and a right of access over significant plots of cultivated areas (Bronger, D., 1996). At the end this common law system lead to an even stronger position of these higher castes.

Landowner-ship and land-accessibility were strict hierarchical modelled; the land-owners belonging to the highest caste at top, followed by the long-lease tenants, the tenants without fixed user-rights and finally the workers(Bronger, 1996).

### *2.2.2 The British Rule*

At time of the 18th century, India became under influence of Britain; the first place they could fully control was Bengal. The East-India company got in 1765 the tax sovereignty and became de facto an power-instrument for the British rule.

They kept the Mogul system in the broad lines the same; the only difference was that the British made the tax officials (Zamindare, they collected the taxes and got a % of the harvest) the landowners. These new landowners only had to pay the land tax, not a part of the harvest. The amount of taxes to pay, didn't really rise, but collecting the taxes became more effective. Revenues were no longer flexible; regardless the yields of the land, the amount of the taxes to pay stayed the same (Bronger, D., 1996).

In 1793 was then the 'Permanent Settlement' introduced; taxes were not only fixed for a certain amount, but became also fixed for a long term. The British aimed by this to initiate a development and modernisation of agriculture. Farmers now could keep their surplus to themselves, so it was worth while to invest in agriculture by the landowners. Unfortunately this didn't happen. To the Zamindare land only was an object, which one could now use as a trade-commodity; they didn't have any affection with agriculture. Land of people with revenue-debts was sold by auction, hence an extensive market for land became in charge. Most of this land was purchased by families of the land-owning castes.

Sometimes, when a Zamindar didn't pay his taxes on time, the owner-rights were sold by auction to the highest bidder. Now these rights were bought by other castes,

though still from the higher Varnas. Tenants or workers still had no opportunity to become landowners. During the British rule the tax-system became more efficient and effective, but the original system of land-using rights hadn't really change; the highest castes, which had access-rights to land in the 17th century, still had these rights years after the 'Permanent settlement' was introduced. First as zamindare, later as landowners. Only little changes occurred sometimes, when some land-rights were exchanged within the highest castes. The other (lower) castes still worked at the land and tilled the crops (Bronger, D. 1996).

Due to this Permanent Settlement principle land became valuable, even without higher yields. Result was that one didn't need to invest in improving the growing methods, hence as an opposite to the expectations, implements weren't modernised and the cultivating still remained at a low level (Bronger, D., 1996).

At the start of the 19th century, land became scarce due to population-growth. Had it been common for a long time for the village people to till their own land, now together with the other measures, a lot of farmers lost their land and became landless tenants or even coolis. This led to a strong hierarchy consisted of different strata with the landowners at top and the real tillers of the land at the bottom and in between a lot of middle-men; every layer had to earn something from the production; beginning at the top. At the end of the chain there wasn't much left, so the land workers, were still living at the subsistence minimum. Being a static system, it hardly left any space to increase productivity and with it the yielding of the land (Bronger, D., 1996).

But another aspect of the lack of investment of capital and not modernising the agricultural production methods by the landowners is to blame on the monsoon. When a landowner had invested a lot of capital in his farm, then a crop-failure would lead to a gigantic loss. By letting the tenants carry the risk of crop-failure and instead of the harvest getting their payment from the interest, (though it was lesser than the yield of an average harvest), they had at least a much more sure income (Bronger, D. 1996). Still, at the end, the British supposition that by introducing this system agriculture would get a boost, proved it's own wrong. The plan to uplift agriculture failed. Instead, due to this system, these landowners had become the most supportive layer of society for the British Rule.

Despite the efforts of the British, at the end of the 19th century, Indian agriculture was still of backward level. Where European agriculture had developed itself and created conditions in which it was possible to induce a wide-scale industrial development, Indian agriculture still was of the same level as in the year 1600.

## **2.3 Agriculture in the present time**

### *2.3.1 Post-Independence*

The term present is, like past, comprehensive. It can be interpreted in a lot of different ways. Present in the context of this thesis means the period after the independence. Especially in this era India 'invented' itself when it came renewing of it's identity and of policy-making (Bronger, D., 1996). When Nehru introduced the first 5-year plan in 1950, it was clear that India had a lot of work to do in order to come to a higher development level. But it was also clear that India wouldn't be a will-less, static and stagnated, colonial country anymore. The independence formed a plain caesura; post-independence government came with total new view and consciousness and perception of ruling the country, though ironically, looking (partly) back to the original Hindu values. But still very much adjusted to new times and new believes. Hence when there's referred to the 'present', it can be read as the post-colonial time, still not

ignoring the particular (inevitable) differences that have occurred between the 1940's and the 21st century.

For agricultural activities, this era was also of massive importance, while especially in the first five-year plan, agriculture played a significant role. It received 37% of the total federal and state expenditures (Bronger, D. 1996). But the output in food-production was satisfying, in contrast with the employment-rates. So in the second five-year plan the main focus changed from agriculture towards industrial development. Inversely proportional to the attention for the industries, agriculture was very much ignored in these following plans.

Besides practical reasons, this development was also ideological induced. Factories were supposed to be controlled by the government, while agriculture was a fully private sector and by means of tax-revenues agriculture became even less important. But instead of tackling the unemployment problem, it became even worse; from approximately 9 million people in 1960 to 12 million in 1964. Even more disturbing was the fact that during the drought of the years 1965 and 1966, food-production went down with over 20% (Bronger, D., 1996). This led, together with the war with Pakistan, to the situation, that the basic articles of food were put on ration for the first time.

In 1969 at the start of the 4th five-year plan, having learned from the debacle of the former years, the expenditures for the industrial sector were reduced and were invested in agriculture and irrigation, though still less than with the first plan. During the following years, these investments ever fluctuated between the 20% and 24%. Within the budget, expenditures were shifted towards irrigation in the years 1974-1985. Afterwards it was somehow stabilised at a lower level, still continuing the general expenditures for agriculture (Bronger, D., 1996).

Looking to these new governments and policy-making, the question rises if these measurements had any influence on the way in which agriculture was performed. Did the agricultural production in the second half of the 20th century reach the level of that of western Europe and were the simple implements traded for modern equipment?

In the villages, where still about 80% of the total Indian population lives, almost all the people are as ever in one way or another closely connected to agriculture (Sharma, R. M., 1979).

Next to fulltime and part-time labourers, like seasonal workers, there are mechanics and repairers needed to fix the agricultural equipment and the irrigation-installations when they're out of order. This is mostly done by people from the villages itself (Bronger, 1996). In this branch of labour are also a great number of persons involved. Compared to the Mogul-era, this situation, where almost the whole village is tied to agriculture, hasn't changed so much. Only the sort of activities linked to agriculture have altered; carpenters repairing the wooden ploughs have been exchanged for the mechanic fixing the tractors and repairing the irrigation installations.

Besides the direct and indirect links of employment in the villages that proceed from agricultural activities, industries as well lean for a severe part on agriculture. The processing of agricultural products, including products of animal husbandry origin and woods, took account for 43.6 % of the total employment in the industrial sector (Bronger, 1996). From all the processed products in the factories, 35% was derived from the primary sector: foodstuffs, tobacco, sugar, textile, wood, paper and leather. In terms of over all employment agricultural businesses, being the farm-input and the agro-processing industries, account for 6 % of the total employment-rates. While the export of agricultural products is set to 25% of the total export-rate, the import of agricultural products is only 7% of total import (deSouza, 2000). So when it comes to feeding it's own population, India is almost entirely self-sufficient.

The largest share of the total agricultural production comes for account of crop-agricultural output: 72%, livestock products contribute 25% and fishery 3% of the

entire output (deSouza, 2000). Most of these products, except for foodgrains, will be processed. The food processing industries have a share of two-third in the total agro-processing output. Still, these 'organised' processing industries work up only 25% of the primary food commodities (deSouza, 2000). By far, the largest part of the farm-output is processed with simple techniques, for example, two-third of the paddy is milled by hullers; hence recovery is low. Oil-seeds (except for groundnut and soybean), fruits and vegetables and animal products do not gain any better results when it comes to modernised processing.

But agriculture is not only important in itself for providing high-employment rates and considerable contribution to the national income, but also in terms of forward and backward linkages intervening in all economic sectors. The agricultural production has a backward linkage to the agricultural input industries, like seed and fertiliser factories and provides a forward linkage to the agro-processing industries (deSouza, 2000). Considering all of this, agriculture still plays a very important role in all-day Indian life. It's still the leading sector in economic as well as in social terms. Though a lot of things haven't change much, especially the numeric importance of agriculture, production-methods aren't likely to be the same as in the Mogul time any more.

### *2.3.2 Causes/superchargers of developments*

In the post-independent era, agricultural output did rise; between 1949/50 and 1990/91 the agricultural production increased from 52.6 million tons unto 164.4 million tons. This was more than tripled, when population-growth was only 2.3 times as much as in 1949/50 (Bronger, D., 1996)

Main issue, in relation to the increased agricultural production, was the fact that the Indian population growth became an important trend. In the 16th/17th century, the population was still rather stable. But as stated before, from the early 19th century until today, population grew more and more. In order to keep the amount of food per person at the same level, it's necessary to get a higher yield. But still, the increased production was caused by the fact that land used for the agricultural production was expanded; more land was put into use and made suitable for tilling. Besides, this growth was differentiated into crops; especially wheat was responsible for this growth (8 times more), rice was next, being responsible for an increase of still 3 times. On the other hand, the production of pulses was only increased by a factor 1.5; by far not enough to supply the population of 1990 with the same amount of pulses as in 1950 (Bronger, D. 1996). Another important aspect was that the production numbers were regionally differentiated. All together, this doesn't leave any insight in the use of new techniques and leaves no clue about any modernising of the production method.

Population growth had massive impact on agriculture and instigated some real significant developments. It was a subject to take account of and that influenced India's agricultural policy direction and agriculture in general.

Whereas in the early stage of independence agricultural production had increased by putting more land into use, this wasn't a process that could be carried through. Due to the population growth, land wasn't available unlimited. Pressure on land raised, hence the plots of land that could be used for cultivating crops diminished. But because of this, the cropping areas that were taken into use, weren't always suited for cropping and some grasslands became over-grazed, this happened in India in the regions with shallow red soils. Hence the productivity declined (Huibers, F.P. 1985). Besides, with population growth has also in consequence that a larger area is used for tilling cereals, at cost of pulses. This leads to an exhaustion of soil nutrients. Through leaching and erosion the general condition of the soil deteriorates. Natural vegetation is lost and nothing gives such a protection as the good original vegetation (Huibers, F.P. 1985).

New techniques could partly neutralise this effects and make sure that the production-numbers don't decrease any further. Instead, with the right use and under the right conditions, these new techniques could really give the production a boost. Compared to the 1930's, yielding potentials have increased multiple times (Huibers, F.P. 1985).

Next to this, population growth lead on the other hand also to an increasing supply of the total workforce. A part of this annual flow of labourers has to be placed within the agricultural sector; not only practical seen, but also in the view of planning-makers and politicians (Bronger, D. 1996)

While the main political conviction was one of an evolutionary development, the only option to realise this, is to support the small family-farms which enhance together with the medium-sized farms 95% of the total amount. The investment in the agricultural sector could only be strengthening and effective if it was put into the use of more labour-intensive technologies, due to the large supply of the workforce and the tightness of capital (both for the businesses as well as for the government). All of these features made that there has been a need for intensification in agriculture (Bronger, D. 1996).

And what technique would do this better than irrigation, although in the early days when the Aryans entered the Indus-valley the native people had already set up irrigated agriculture, but not at such level and with such techniques as nowadays. Irrigation makes that the yield-potentials of the land increase enormously and besides, it brings a solution for the dependence of agriculture on the monsoon. This increased yield-potential gives several advantages; the productivity rises (by tilling varieties that give higher yields), but even more important, it's now possible to till cash-crops which gives high profits (Bronger, D., 1996). This is the first step in the process of the transformation from a self-subsistence rural society into a market-orientated production economy. This was the dominant strategy in the early 1960's.

### *2.3.3 Green Revolution*

The success of these development can not be concealed, over one-third of the total area of cultivated land is irrigated (deSouza, P.R., a.o. Desai, B.M. 2000).

But irrigation wasn't the only thing that was used to improve the agricultural output; together with artificial fertilisers, a better energy-supply system and less bureaucracy in getting credit it was, it lead to an increased agricultural output. With all these improvements, it was not only the agricultural sector that benefited, but it also contributed to the poverty-reduction (Bronger, D., 1996).

Although there are some regional differences; in Northern states it can rise to 60-90%, whereas in the South (Karnataka, Andhra Pradesh Kerala and Tamil Nadu), it ranges from 15-40% (deSouza, P.R., a.o. Desai, B.M. 2000). Yet the local differences have diminished over time as a result of the mentioned improvements.

Most of these new techniques were outcomes of the green revolution. From the mid-1960's highly improved seeds, capable of maximising the effect of (irrigation) water and fertilisers, came into appearance. Besides, capital requirements, like tractors, pumpsets and pesticides became available (deSouza, P.R., a.o. Desai, B.M. 2000, p 115). Indian policy became fixed to implement all these new techniques and opportunities into an integrated total package (Bronger, D., 1996).

India had already set-up other programmes to improve agriculture, but they were more organisational (co-operations, etc.). Sometimes they were combined. But in case of the Green Revolution, technical improvement was used. India was one of the first countries to adapt the high-yielding grain varieties on a large scale, though it was confronted with stagnating volumes at several places (Rambousek, W.H., 1978). India's increase in agricultural production was most and for all accomplished through the areas which used the new techniques; where all crops were tilled in the wetlands.

42% of the grain production by the time of 1985, came from the wetlands, covering slightly 30 % of the net sown area (Put, M., Van Dijk, M.P.,1989). This shows how worrying the situation is, regarding to the rainfed agriculture; 70 % of the net sown area is responsible for only 58% of the total grain-output. Especially the millets, pulses and oilseeds lack behind. And while 80 % of the of these jowar, bajra, ragi, finger-millet and pulses and oil-seeds are grown in rainfed-agriculture, or drylands, this can cause some problems (Put, M., Van Dijk, M.P.,1989). This shows how people's lives in these areas are connected to the rain, i.c. the monsoon. It's a very important factor in the village life.

The part that was very successful, was for example that the wheat production increased between 1967 till 1991 three times. Rice-production, on the other hand, was only multiplied by a factor 1.9 over the same period of time (Bronger, D., 1996, p.370). While rice is much more sensitive to physical conditions, the rice-varieties tested in the Philippines wasn't suited for the Indian environment. The Green revolution was an international development. So not everything was fully tuned in on the Indian situation.

A miscalculation was that all these items had a lot of influence on the soil; fertiliser and pesticides, influenced the soil negatively. Dehydration, erosion and saturation of the soil occurred. A lot of crops weren't from local origin, but were special breed. Without the technical advanced applications, these new seeds wouldn't give any output at all (Bronger, D., 1996).

But on the other hand, these technical applications made that the high-yielding varieties were neutral for scale and in principle use-able for every farmer (Rambousek, W.H., 1978).

Input increased dramatically, what could be seen at first side as a good thing, while the yield had risen. Hence, productivity increase should be considered in regard with a differentiated outcome. Compared to it's neighbouring countries, India dangles at the lower places on the list (Bronger, D., 1996). When it comes to wheat, the situation is nearly better, although in this case, Russia and the USA are major players. They had large plots, which were extensively used, hence their productivity could be enhanced on a much larger scale (Bronger, D., 1996).

Main reason why the initial success of the Green revolution wasn't fully exploited, lies in the aftermath. In order to maintain the high productivity levels, it was necessary to continue a high investment of capital. Regions which already had a good developed infra-structural network, including a large area of irrigated land and had a decent level of development in general, were moreover supported (Haryana, Punjab and the Western part of Uttar Pradesh), whereas areas that had disadvantages and were still of a backward level, didn't have the resources to continue this direction, but also didn't got any support (East and Central India). Result was that the regional differences became in some points even bigger and that in particular parts of India agriculture stayed at a rather low level (Bronger, D., 1996).

To the future it's a challenge to get agriculture in these backward areas at a same level as the areas that benefited most from the Green revolution and also a necessity for India to be able to feed it's own population.

Rambousek argues that there will always be development; he has a different view on the agricultural situation. He stated that it's nonsense to suppose that there are no real, essential changes between agriculture in the pre-modern, traditional societies and agriculture at present (Rambousek, W.H., 1978). It's not about the question if changes occur, but in what time these changes are accomplished. There has always been improvement, even in the pre-modern, historical times, but they were rather slow; throughout time tools, machines and crops became better.

So when it comes to the problem of agricultural development, the quintessence isn't whether traditional agriculture will be transformed into a modern and dynamic sector, as well as how the growth of agricultural output and productivity can be accelerated in the same time and simultaneously with the other economic sectors. Hence,

addressing agriculture as unchanged through time, being the same now as in the past makes no sense. In this light, the backward regions will eventually climbing up, though it should be supported to do it quickly, that makes the difference (Rambousek, W.H., 1978,).

Green Revolution is a clear example of this; considering the annual growth rates of all food grains in total, it appears that in the years after independence, but prior to the Green Revolution the annual growth-rate was 3.05% (between 1949/1950- 1964-1965). When we look at the period 1949/1950-1970/1971 the annual growth-rate was 3.26% (Rambousek, W.H., 1978). Explaining this differences only by climatological factors (rainfall) doesn't hold. Comparing the drought years 1964/1965 and 1972/73 show that in the latter season the output of 97 million tons is over 25 million tons higher than the former. And even statistical analysis of the over-all data corrected for the weather-effects, shows a significant higher output (Rambousek, W.H., 1978). Considering this, it seems obvious that due to the green revolution a change has occurred in Indian agriculture.

Question is, has the change widely ranged and how-far reaching has it been. This item has everything to do with the time and speed in which these changes are implemented in the whole country. If the appearance of the Green Revolution was inevitable, how well did India cope with this new chance?

Here we come into the area of the regional differences and moreover the crop differences. Where some crops emerged as the saviour of the nation, like wheat whose growth boosted enormously due to the new techniques, from annual growth rates of 3.99% between 1949/50-1964/65, to 5.87% between 1949/50-1970-1971, others, like rice dramatically failed. Annual rice growth, on the other hand, declined from 3.47% in 1959/50-1964/65 to 3.26% in 1949/50-1970/71 (Rambousek, W.H., 1978). For a crop so dominantly and important as rice, this debacle made at the same time clear, that the Green Revolution wasn't a blessing for everything. Not surprisingly, these crops-differences, also had a geographical component, while rice was more tilled in the eastern regions and wheat in the North-western States. In the next paragraph crops will be further discussed and the next chapter will consider the Karnataka situation.

A different instrument to review the outcome of the Green Revolution is to take a better look to the area under high yielding varieties. By the time of 1972/1973 the acreage of these crops was a little over 25% of the total cropped area (Rambousek, W.H., 1978). One could argue that there was at least change, but it's still not in charge that change has occurred; point is to what extent and how far-reaching. Right here lies the problem; 25% of total agricultural area was irrigated and at the time of 1974, all covered by high-yielding varieties. But 25% is by far not enough to declare that the Green Revolution has accomplished this aim.

But in regard of this, it's not total impossible to till high-yielding varieties without irrigation, though in order to reach full growth, it's still necessary to use a complete package of measurements; fertilisers, pesticides and water, i.c. irrigation. Still, irrigation is the most important requirement for a successful exploitation of these new varieties (Rambousek, W.H., 1978).

Hence, it seems obvious to extent the irrigated area in order to get a larger acreage covered by high-yield varieties. But expectations shouldn't be to high; these additions are likely to be slowly added to the existing acreage. On account of the fact that the Green Revolution wasn't fully unfold, is the underestimation of the rate of investments needed to take full advantage of the new techniques; a symptom that has been seen in the whole South and Southeast of Asia (Rambousek, W.H., 1978).

When we fetch back the earlier remark about irrigated area being now over 1/3 of the total cropped area (deSouza, P.R., a.o. Desai, B.M. 2000), it supports Rambousek's statement that extending the irrigated areas would be a rather slow process; from 25 % to 33%, an increase of not even 10% over a 20 year-time period speaks for itself.

It was indeed especially in the earlier years, during the first decade of the Green Revolution where great results were shown. In the overall period from 1950/51 unto 1965/66, pre-Green Revolution time, the percentage of productivity in the total agricultural growth was only 25% (as stated before, for most results were caused by extending the total cultivated area, p.22 line 10.5). This has increased since then and now accounts for 43% of the total agricultural output at current times (deSouza, P.R., a.o. Desai, B.M. 2000). This improvement increased between 1965 and the mid-seventies. After the mid-1970s, this percentage, of productivity responsible for the total output growth, declined after the mid-1970s. Between 1985-1990 it only accounted for 29.63 % of total improvement of agricultural output growth. Comparing this to a highly technological developed country like the USA where the factor productivity accounts for over 2/3 in the total output growth, one may conclude that the technical improvement, so successful in the beginning period of the Green Revolution, slightly blurred in India (deSouza, P.R., a.o. Desai, B.M. 2000).

Here we are confronted by the practice a lot of developing countries suffered from; neglecting the investments necessary to maintain the advantages of the technical enhancements. In the aftermath of the first spectacular growth numbers and improvements, it's even harder enlarging the yields year by year. At first, only simple techniques can boost the output, especially when equipment and tilling are at a rather primitive level. This happened between 1965-1975. But this only goes to a certain extent. In course of time (here: after 1975), when techniques are already at a higher level, it takes more and more effort in order to get even the slightest result from a technique; the range in which improvement can occur, is narrowing down.

Hence, it takes very sophisticated techniques and improvement of the details, for example focussing on the quality of the used techniques, instead of adding more fertiliser to the land. Fine-tuning of the applications like irrigation, the use of fertiliser and pesticides, supplies the means to enhance the yielding; in the right dose, the right combination and at the right time, this can really make the difference and improve the output (deSouza, P.R., a.o. Desai, B.M. 2000). This fine-tuning requires knowledge about the input and this requires some level of research or money. Also the ongoing development of new (bio-) techniques must be explored and applied. It's an ongoing process, this implementation and improvement of new techniques. And this process has only proceeded slowly in India; relative growth numbers and productivity stagnated in the period after 1975.

Considering all this, the question about accelerating the growth rates of agricultural output and productivity as factors that really show if a country is developing, must be answered rather disappointing. It turns out that India couldn't cope with the Green Revolution; modernising and improving it's agricultural sector towards a European or US level didn't happen. When reviewing the matter from Rambousek's angle, agriculture should have developed faster when it would become really a mundial player as a sign that agriculture had really improved. Hence, Green Revolution is only one of the developments in the continuing chain of improvements that occurred throughout time.

On the other hand, one should not loose sight of the fact that between 1950 and 1990 pro-head food production, increased by 40% (Bronger, D., 1996). This is more than ever before was accomplished. Though by the time of 1987/1988, still 33.4 % of the total rural population in India lived below the poverty-rate; impressing numbers. And with India still being a preponderant rural country, this outcome shows significant importance for society as a whole.

At the same time, the rural communities have got an improved life-standard, whereas a significant range of provisions came into accessibility of the village-population. Where in 1947 only 0.5 % of the rural households had access to electricity, this number had risen towards 50% in 1990 and the drinking water-supply in the villages has been improved inevitably (Bronger, D., 1996). Even radio and t. v. have been introduced in the village-communities and are no longer a novelty.



This doesn't give a clear answer to the question whether Indian agriculture and rural society in essential haven't changed or whether things will never be as they used to be and that Indian rural life will change significantly.

A characteristic that occurs when it comes to access to all the new techniques, is that the highest castes have the disposal of most of the irrigated land. The paria-castes also use water, but they aren't able to till the high-yielding varieties. While for these varieties it's also necessary to use more expensive inputs; seeds, fertiliser, pesticides, as stated before, they need to be used in order to reach full growth. Paria-castes couldn't effort these, hence they didn't benefit as much from the new developments as the higher castes (Bronger, D. 1996). This could explain why production and output-rates increased, but still leaving a lot of rural people poor.

An explanation for the increase of provisions in the villages (electricity, etc.) should be found outside the agricultural frame, due to the since the 1970s and 1980s initiated development of small industries (Bronger, D. 1996). These sites were dispersed throughout the country, even in small-towns, hence a broad infra-structural network was required. The building of energy-plants and networks, roads and even telephone-networks, unlocked a lot of rural areas. As a result, the backward agricultural villages benefited as a whole from these new provisions; a lot of households, even the poorer ones, now became connected to the electricity network, telephone network and could receive radio and t. v. (Bronger, D. 1996).

So the life-standard of the villagers have in general terms become higher, question is whether this was caused by the Green Revolution and improved agricultural techniques or for example was the main cause the industrial improvement.

Looking to the over-all improvement of the agricultural productivity and yielding, one could not conclude differently, then that the Green Revolution made a huge contribution to the improved conditions in a lot of villages. At the time of the 1950s, some villages only had little capacity in feeding more than it's own population; population growth in some cases wouldn't be possible in the view of some without getting a food shortage (Bronger, D. 1996). The same villages are now grown 2.5 times and still have sufficient food for feeding it's population and even more. Looking at all the given number here fore, they all show improvement. Even when the growth-rates haven stagnated from the mid-1970s, it's inevitably that agricultural techniques are available, that were better than ever before. Outreaching by far the natural development, that of course had always occurred between the Mogul time and Independence as in the ancient times. But in essence, it kept the way of life and the rural structure the same. Green Revolution, though not yet in every part of India embodied, created the conditions for a modernisation and development of other economical sectors like industry and services.

In the next chapter the agricultural situation of Karnataka will be discussed.

## **2.4 The role of caste in agriculture: changes in the post-independence period?**

Indian society always was a rural, village society. The village was a whole community in itself and the most important reference of the individual (Bronger, D., 1996, p.121).

As was stated before, such as village was very much linked to agriculture. The Jajmani system is a good example. Besides the relation between caste and land-ownership was common; the highest castes possessed the largest plots of land and there was a strong correlation between position in caste and in the socio-economis agricultural layer (Bronger, D. 1998, p.280). The highest castes most often were the landlords and so on from high to low; landlords, ryots (farmers who work their own land), tenants and coolis, the day-worker, as members of the lowest castes.

But even in the early days, this didn't meant that there were only specific castes, performing agricultural activities; agriculture used to be the only sector that was a caste-free space. Ryots, tenants and agricultural labourers as well, could come from

any caste; there are no restrictions, even the Shudras and untouchables are allowed to perform these tasks.

A lot of people have exchanged their original caste-occupation for jobs in agriculture (Bronger, 1996, blz. 116). This process already started at the time of the British Rule. In some caste-occupations was not enough work for all the members; the Balai (weavers) for example, had much competition from the clothing-industries, which were able to produce at lower costs, hence the work of the Balai lost significance (Bronger, D., 1996).

Like the weavers, the artisans lost their traditional labour as well and now some of the artisans work as mechanics or in any other aspect of the mechanised agricultural sector (Sharma, 1980).

Post-Independent India didn't only face differences in agricultural production methods, but it developed also industrial sites and to a certain extent it induced the a development of high value services-sector.

After the independence, India initiated a whole industrialising programme (s.a.). The British already founded some factories, but it was extended more and more in the years after 1947. Due to this industrialisation-process particularly the real handicraft occupations became superfluous and although most of these artisans found their jobs in repairing the new machinery, in industry-distant areas, the only alternative caste-free sector that is left to work in, is agriculture. But a lot

Especially the jobs of members of the lowest castes, were needed less. Most of the time, these people became land-labourers or coolis, hence they loose income (Bronger, 1996,). Artisan- and service-castes like weavers, potters, oilpressers, tailors are sometimes also involved in this process. Opposite of the scheduled caste, these artisans and service-lenders suffer from a decrease in social status; the scheduled castes can only gain something both economically and socially from working in agriculture. Still, this effect should not be over-estimated.

Yet, almost all of these people switched to jobs in the caste-free space; a change from weaver to blacksmith for instance, which is from one caste to another, never occurred (Bronger, 1996).

By far, most of the new occupations are placed outside the caste-dharma (Bronger, 1996). Civil servants, police-officers, barristers/attorneys, scientists and all kind of jobs in factories are no traditional caste-occupations; they are not a Jati.

Also members of the Brahmin-caste and members of castes of traders and servants have faded-out of their original caste-jobs; they're not functioning within the local community performing their traditional role as main activity anymore. For special occasions, such as weddings, the priests will still lead the ceremony and the barber will do the haircut, but in order to make out a living, they're more and more active in the national-oriented commercial agriculture and the secondary and tertiary sector (deSouza, 2000).

In case of the artisans switching in to agriculture, there has often developed a very tied private legal structure between landlord and the new agricultural labourer; the latter one has debts in the form of services to give on the first one, who is paying him (in kind) or the money-lender who has lend money to the labourer. It is very hard, once involved in such kind of structures, to step out and whether start with another job or your own business or just being free of debts and working all for your self (Bronger, 1996).

And this process strengthens itself as there is a direct link between the caste-position and debts (Bronger, 1996). Brahmins and other high-caste people are better educated and have lesser debts, while in case of the low- and scheduled caste members it shows the opposite effect; they have higher debts and lesser education and the most farmer-castes are stated somewhere in the middle. So when labour in the traditional caste-jobs decrease, this situation also narrows down their opportunity to find another job. And then there is still the social-psychological aspect of the hierarchy inside the occupations; low-caste people feel often less of themselves, even if they perform the

same labour as high-caste people (Bronger, D., 1996). Though for the scheduled castes, the situation can still be improved, while regularly, they already suffered from the fact that it was hard for them to get a job or an income at all. So the new situation, performing agricultural activities, is more favouring than their traditional circumstances.

With the new modern economy, there has also emerged a more 'class-based' society (deSouza, 2000). Not only the social status of the caste is determinant for one's position in their community, but also the access and ownership to certain economic assets and the acceptance of new lifestyles gives status to a person (deSouza, 2000).

The position a certain member now has in society, is a kind of mixture of ritual, social and economic powers: both caste and class.

This also means that a Brahmin is not always the highest person anymore; quite some Brahmins are stated in one of the lowest income-groups nowadays (Bronger, 1996). Due to their low economic status, the 'over-all' status of this group is not as high as it used to be, though they're still the leading group in society.

On the opposite, lower castes that have gathered some wealth, can gain status and respect and even some influence if they interact with high-caste members as well.

Contrary to deSouza's view, Bronger still recognises the importance and determining factor of caste. Socially, their rank in society is as ever determined by caste (Bronger, 1996); people still have to marry within their own caste and will be addressed to as a person of that particular caste by the higher castes. For instance, there was this very rich man who was of the Gowd-caste (palm-juice presser), but when the higher ranked-castes wrote or called the Gowd man who'd become very rich and was chairman of the cricket-club, his name, they always added 'Gowd' to his name, hence letting him know that he couldn't change his rank (Bronger, D. 1996).

So there have been some economical changes in the caste principle. Though agriculture wasn't the domain of one particular caste, some castes have a special historical link towards agriculture and it is free for every caste to work, there still are some special agricultural castes, each with different tasks. For instance Rajput and Ahir (landlords), Lingayat, Maratha and Koli (ryots), Bhuiya and Pallan (workers, coolis) are all agricultural castes, each in a specific part of India (Bronger, 1996).

But as a result of all these developments stated above, agriculture is not longer the domain of the specific agricultural castes, like the Rajputs and the Lingayats in Karnataka. As stated above, even the Brahmins are active in agricultural activities. Brahmins had always owned land, but didn't work on it themselves; they rented it out to tenants (Sharma, U, 1980). Nowadays they not only till their own land, but they even work as coolis sometimes. The same goes for the Lingayat; though an agricultural caste since long, they also have to work now as coolis.

One could expect that due to the Green Revolution and ongoing technical changes, agricultural labour is needed lesser and lesser, though until now, there's still a large part of the people working in agriculture.

## **2.5 Cropping patterns**

Like the Indian landscape, there are many different types of crops growing in all the regions. In some areas, one crop is very dominant (for example in some Eastern States where rice is tilled as a mono-culture), though most of the time, a very diffuse cropping pattern exists with not seldom 20-30 kinds of crops within a village-area. (Bronger, D. 1996, p.157). From rice to jowar, from groundnut to pulses and from sugar cane to vegetables. And even within one sort of crop, there are a lot of varieties; rice for instance, is found in a couple of dozens of varieties.

Besides climatological differences, the great diversity in crops all over the country is partly due to human influences like irrigation, but also by different food patterns of

various groups. Different religious groups and also castes, have their own food-prescriptions; Jains don't eat anything that grows in the ground, like potatoes, only things above the ground. Most other castes rules, mostly regards meat consumption, and sometimes it's a matter of tradition to eat some things or not. In the Punjab, wheat is the major foodgrain. Though Punjab is nowadays an important rice producer, traditionally the Punjabis' main nourishment were all kind of wheat-products and they still are (Bronger, D., 1996). Hence, a large part of the rice-output is sold on the domestic market.

When we look to cropping patterns it's good to keep in mind, that between the time of 1969 until today, the main point in tilling crops moved from a self subsistent food-producing agriculture towards a market-oriented food production, whether for the domestic or international market (Bronger, D., 1996). In 1901, almost the entire agricultural output was used for the villages' own need. A lot of land was only used for one crop, especially the main food-grain; in some areas millets took 40% of the total crop-area. Pulses and other grains were tilled on the rest of the land. Two-third of the total acreage and three-fourth of the total crop-output, was for the community's own use (Bronger, D., 1996).

Today, the millet cropping is slightly more than 10 % of the total crop-acreage, whereas rice-cropping increased significantly, as did vegetables, fruit and spices in some areas; they became booming. These are all crops with a highly added value. It takes quite some investments to be able to till these crops; most vegetables can't grow without irrigation (Bronger, D., 1996). It's not surprising that these changes all were initiated from the mid 1960's. For these new techniques of the Green Revolution created the technical implements to make this change even possible, besides the fact that a lot of people have adapted these innovations and have applied it as much as possible for their own production (Bronger, D., 1996).

Still a lot of acreage is under use by the traditional crops and physical environment dominates largely the cropping patterns for a lot of Indian farmers (Bronger, D., 1996). Generally, it's more a quantitative change, rather than a complete new cropping pattern. Most crops were already tilled in India, though not at this scale. What had changed was the region where it could grow (what region) and the season, in which it was possible to till the crop. Especially the Northwest of India states like the Punjab, Haryana and the West of Uttar Pradesh, benefited from the extended areas under irrigation. Wheat and rice production increased significantly at cost of millets and pulses. A same sort of transition, though not at such a large scale, was achieved in Andhra Pradesh. Irrigation was expanded and here favoured pulses, cotton and jute.

Looking at all the regions, it's awesome to see how many different types of crops occur within the Indian Federation. Not only the categories of crops that are tilled; sorts of grains, pulses, vegetables, oil-seeds, spices, fruit, but also the different sub-species are innumerable. The most common varieties will be discussed as will the region where they grow be added. Physical Geographical features of the regions are important conditions for the outcome of the cropping pattern, though it won't be explained to the utmost in this section; it will only be referred to as wet or dry, not what causes these climatological conditions (being already discussed in paragraph 2.2.1). With all it's species and varieties, the tilled crops have a few major cultures that predominate the Indian kitchen, though with some regional differences (Bronger, D., 1996). Rice is the by far the most important food; 24.5% of the total crop acreage, is used for this grain. Then in the North of India, wheat takes over the dominant status of rice. In the cooler and dryer Northern states rice is very hard to till, but wheat is a good alternative. Traditionally, in the Punjab and parts of Uttar Pradesh and Madhya Pradesh, wheat is the main foodgrain and still counting for 14.1% of the total acreage (Bronger, D., 1996). In the Middle and Western states, especially at the Deccan - plateau, jowar (sorghummillet) and bajra (also a millet) are very common used, far

most as element for bread. Though millets in all varieties are in general rather important as bread grains. Corn is from less important value, being almost nowhere the basic food-grain. It fits not so much with the Indian tradition as do the other crops.

Due to the widespread, caste induced vegetarian lifestyle, pulses are a very important food supplement. It provides the people with the necessary proteins and minerals. Pulses are also divided in a lot of species; lentils, peas, beans, marrowfat peas and chick peas which are most common (3.9%) and usually it's eaten as dal, a mashed form (Bronger, D.,1996,). In order to get vegetable oils, the oilseeds are used. Groundnut is responsible for 4.3% of the total acreage and showing it's popularity. Contrary to the former crops, the spices, though like the other crops a typical ingredient of Indian every-day kitchen, the spices' part in total cropping acreage are rather low, a slight 1.2 % is used for tilling herbs (Bronger, D.,1996,). Vegetables are also important as daily food-product; India has a great variety in all kinds of vegetables, and it covers 1.8 % of the total acreage. Still not eaten so much as the other crops; usually once or twice a day in combination with the pulses and grains. As with spices, vegetables are grown in well-irrigated land near population-concentrations.

Fruit, mostly from Kashmir or Kerala, is not commonly served on the menu of many Indians, while it's quite expensive.

Most of the listed crops before are food-crops, oft eaten by millions of Indians on a daily base. But there are also agricultural crops tilled for the market or non-food crops, for example cotton. Cotton is a very important crop in the whole village economy (Bronger, D.,1996). It's embedded since long in the Indian village; it's a part of the being and soul and until deep in the 20th century it played a significant role in the whole village-community. During the British Rule, cotton-textile was one of the few industries in the 19th century, that benefited from the English economic policy (De Blij, 1998). It was capable to overcome all the difficulties, like the import levies, the British had set for goods and products from other countries, even if they came from their own colonial regions. These local cotton provided cheap yarn and in the villages there was plenty of low cost labour. Even today it's still a large industrial sector, though, it's not so important as it used to be. In a lot of areas it's now only tilled on a small scale, with Gujarat and an area in the middle of India, still being the only major cotton producing areas.

Jute has never come to full growth in India covering 0.5% of the total cropping area, it has never come close to the position that cotton had, though not surprising, while it was 'imported' by the English, it's not a native crop (Bronger, D.,1996) .

One of the most successfully tilled market crops, is sugar cane. India is the world leading producer by means of acreage and production. Cane sugar is the main export product derived from sugar cane, but for the domestic use, many times the sugar cane is squeezed into sugarcane juice.

Most important crops have now been mentioned, but not every crop is linked to a specific region yet; therefore it's good to show first a map of the major crop regions in a general view.

When we look at rice, it's tilled traditionally in the whole Eastern part of India, not only along the coast, but also in the Inland. These are the riverbasins of the great Indian rivers, like the Ganges, Brahmaputra, Mahanadi, Godavari, Krishna and Cauvery-delta (Bronger, D., 1996). It's also a very wet area; precipitation-rates are rather high. There's a small strip of land along the West-coast (West of the Ghats), where rice-cultures are common. This area, like the larger parts of the East, are moistures too. Rice needs a lot of water and moist to grow. The roots need to be in the water constantly. Most famous rice producing state is Orissa, especially for the export. Andhra Pradesh used to be the most important rice producing-state for the domestic use; it's now second after the Punjab. Due to irrigation, as was stated before, together

with the use of high yielding varieties which can handle the dryer air better, some crops can now be grown in different areas; the Punjab is a great example of this. Though one should hold in mind, that these production numbers are still behind that of states like Andhra Pradesh, but where these traditional states are themselves rice-consuming, the Punjab reserves almost all for the domestic market (Bronger, D., 1996).

In areas too dry for paddy-cropping and without good possibilities for irrigation, but still pretty warm, all kinds of millets grow very well (550mm precipitation in red-soil areas, 350mm in black-soil can do). Jowar and Bajra are the most important ones. In the dryer parts of southern-India, millets are very common foodgrains. At the Deccan plateau, jowar is even the most important food-crop in general. This is also shown in terms of jowar that is meant for the market production; only 12.5 % of the total production, whereas in states like Karnataka these numbers even drop until 3%. Compared to rice (by the time of 1980/81, 30.2% of the total production is for the market) and wheat (25.7% of total production is used for the market, in 1980/1981), jowar is very much a local speciality (Bronger, D., 1996).

Besides jowar, there are many more types of millets; bajra is able to stand drought even better than jowar. It is tilled in the utmost West of India, in Rajasthan it's one of the few crops which can cope with the 150-250mm precipitation, hence it's tilled in mono-cultures. Other sorts that are tilled are, Korra/Kagni and Ragi, from which the latter is especially for some wetter areas, annual precipitation rates must be over 750mm (Bronger, D., 1996) . The region in which these varieties are cropped, aren't very widely spread.

## Crops in India

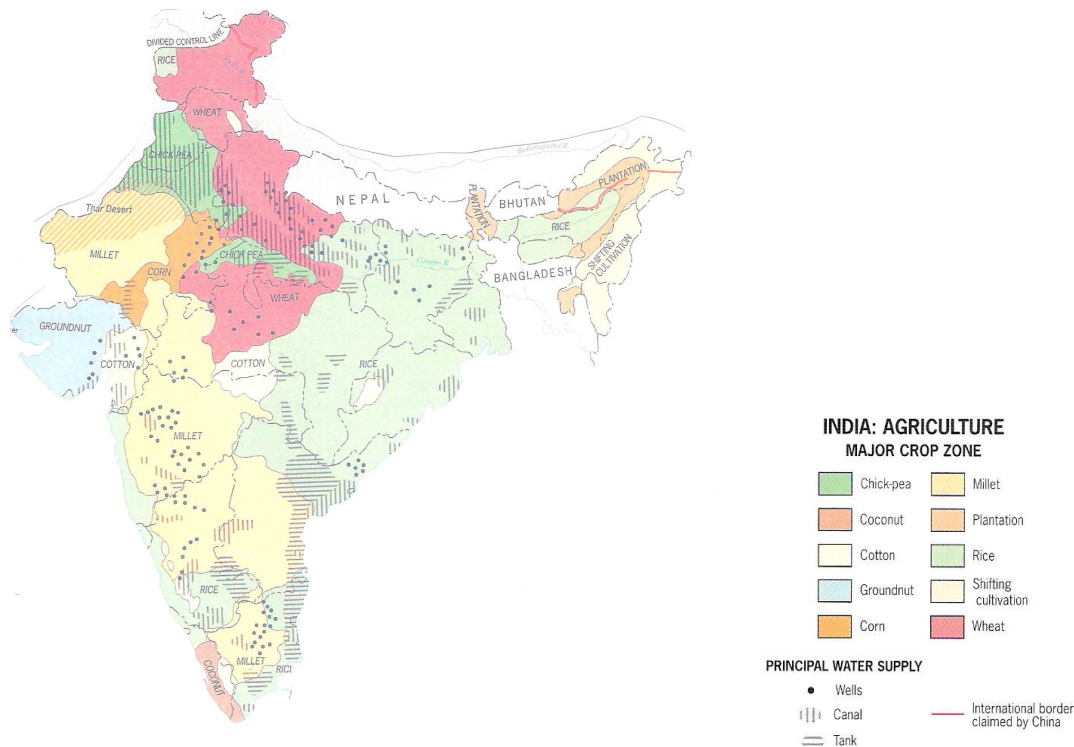


Fig. 2.1: Crops in the Indian States. (Source: De Blij, 1998)

Wheat is the most important grain in the North. It needs more water than millet, but less than rice. Temperatures need to be moderate; summers should be neither cold nor hot, and winters need to be mild. In the Northern states with the canal-irrigation derived from the riverbasins of the Indus (Punjab) and the upper course of the Ganges (Haryana and western Uttar Pradesh), wheat has long taken over rice as main crop. Already in the British era, this irrigation, was already set up. Rice is also be tilled in this irrigated area, though only a side-crop. The middle of Madhya Pradesh (Malwa plateau) is also used for wheat tilling, but it's yields never get the Punjab's level (Bronger, D., 1996).

The last grain that is tilled in India is corn. It's very rare though and only cropped near settlements at well-irrigated land. In the Northern Ganges delta, it's used for cattle-fodder. Corn gives a higher quantitative yield than millet, but at the Deccan-highs for example, it can't be grown without irrigation and fertilisers. But it's also a cultural aspect that corn isn't as popular as jowar and wheat, because corn isn't suited well for the baking of the flat breads, like jowar for roti and wheat for chapati.

Crops quite easy to till are pulses; they have very little demands in regard to soil, climate and even human nursing. Hence there aren't any regions in India specialised in pulses, no regional core-areas. It's tilled throughout the country. Chickpeas do have some very strong concentrations, on the border of Rajasthan-Gujarat and Madhya Pradesh-Uttar Pradesh, though this doesn't mean that they are only tilled there (Bronger, D., 1996). All kinds of beans are tilled and often mixed in cropping with millet or oil-seeds and sometimes as pre-crop for the cotton-breeding and rice-

cultivation, because they're able to hold the nitrogen; a natural manure. Chickpeas do have their own plots of land.

Oilseeds are almost all tilled to manufacture other products. It's an industrial crop. Groundnuts are used to get oil from. Most vegetable oil derived from groundnut. It's an easy crop to till, hence common in the whole of India and especially in Gujarat. In the dry areas in the Middle and South, sesame is tilled containing the largest cropping area of the world. In the Northern, wheat producing states, this changes for rape-seed and mustard.

Soybeans are an increasing crop covering 0.8% of the field-crop acreage in 1986, compared to 0.02% by time of 1972 with the centre at the Malwa plateau. It expanded towards a market –crop at cost of cotton (Bronger, D., 1996, p.163).

Coconut-palms are especially a characteristic element of the coastal zone; in the South-Western part and along the Coromandel-coast; they are also the major supplier of vegetable oil.

Cotton is still economically an important crop as was stated before and it still has got a large area of cropping. With a total cropping-area of 5 %, the fibrin-plants are accounted for a significant part of the total acreage under crops. Tradition plays an important role in the tilling of these crops; since thousands of years, small textile-industries were active all throughout the country.

By far, cotton is the most important fibrant-crop occupying 4.2% of the total cropping area; 75% of this cotton is tilled in the form of rainfed agriculture, without irrigation. Due to this, the cotton yield in India is lower than the world's average (Bronger, D., 1996, p.163). The main core area of today's cotton cropping is the Western Ghats and Gujarat. These are areas covered by 500mm-800mm precipitation and the cotton is tilled as a rabi-crop in an annual cycles with jowar. The soil in this area was by the British referred to as 'Black Cotton soil'.

Jute is responsible for 0.5% of the total cropping area (Bronger, D. 1996, p. 163). Still India is the world leader both in area as in production of jute. Jute-processing industries have it's centre in Colcatta (Calcutta). Though this industries are still responsible for a large part of the export, their rates have decreased and still do; by time 1970 12.4%, but by time of 1991, it had already dropped until 0.9%, especially after independence, it got hit hard. Most of the jute-cropping areas lied within East-Bengal(Bronger, D. 1996, p. 163). So after 1947, India had to plant jute by itself in new areas; this was done in half a circle around Colcatta, also covering parts of Orissa, East-Bihar and Assam. Though this never reached the level as it used to be. In Kerala the processing of coconut fibrin is quite current. Especially women are involved in making coconut-mats in home-based industries.

Sugar-cane is tilled in the Middle-Ganges basin. It's a crop that needs a lot of water. Besides, it takes a long time to come to full growth; 12-14 months and is especially tilled as a mono-culture (Bronger, D. 1996, p. 163). It has a long history in India and is still an important market-crop. In the South of India sugarcane gives higher yields and is also an important area.

Spices are inevitable in the Indian kitchen, especially in the South. Chili-peppers are most commonly and tilled in small, well-irrigated garden near villages, while chili needs a lot of care; fertiliser and irrigation. Kardamom, pepper and ginger have the main point of cropping in Kerala; warm and moistures. Coriender and turmeric are tilled in the delta-areas at the East-coast (Bronger, D. 1996).

But the most important export articles are still tea, coffee, cashew-nuts and tobacco. With only 0.7 % of the total cropping acreage, these crops still are very significant. Especially tea is important for India; it's the world's leading tea producer, before Chin and Sri Lanka. Funny to see how three of these crops; tobacco (already in the 17th century), coffee and tea were introduced by the British. Tobacco and cashew are tilled for all, south of the Krishna river(Bronger, D. 1996). Tea and coffee need a lot of special care, they're very hard to cope with in a right way. Not only in terms of tilling, but also for the processing, it takes real specialists to perform this. Most of the times



they are grown at plantations, which are often owned by large corporations. European companies and business organisation have founded these plantation during the British Rule (Bronger, D. 1996). These plantations need to be in higher areas; cooler and with relief. Coffee and tea are tilled in the Middle and Southern West-Ghats. Tea is also tilled in the areas that are now well-known due to the fact that the name of the teas is adopted from these state and place: Assam (Assam Garden) and Darjeeling. Both situated in the Himalaya.

### Spices in india

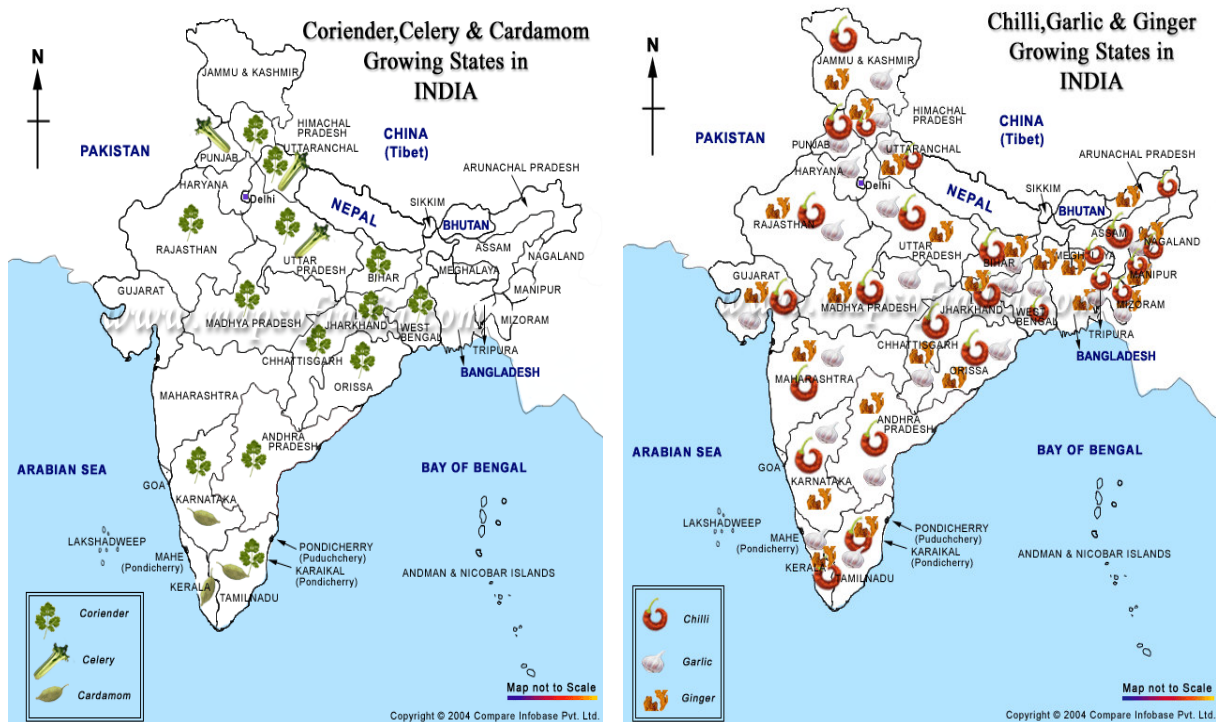


Fig. 2.2+2.3: Spices in India (maps of India)

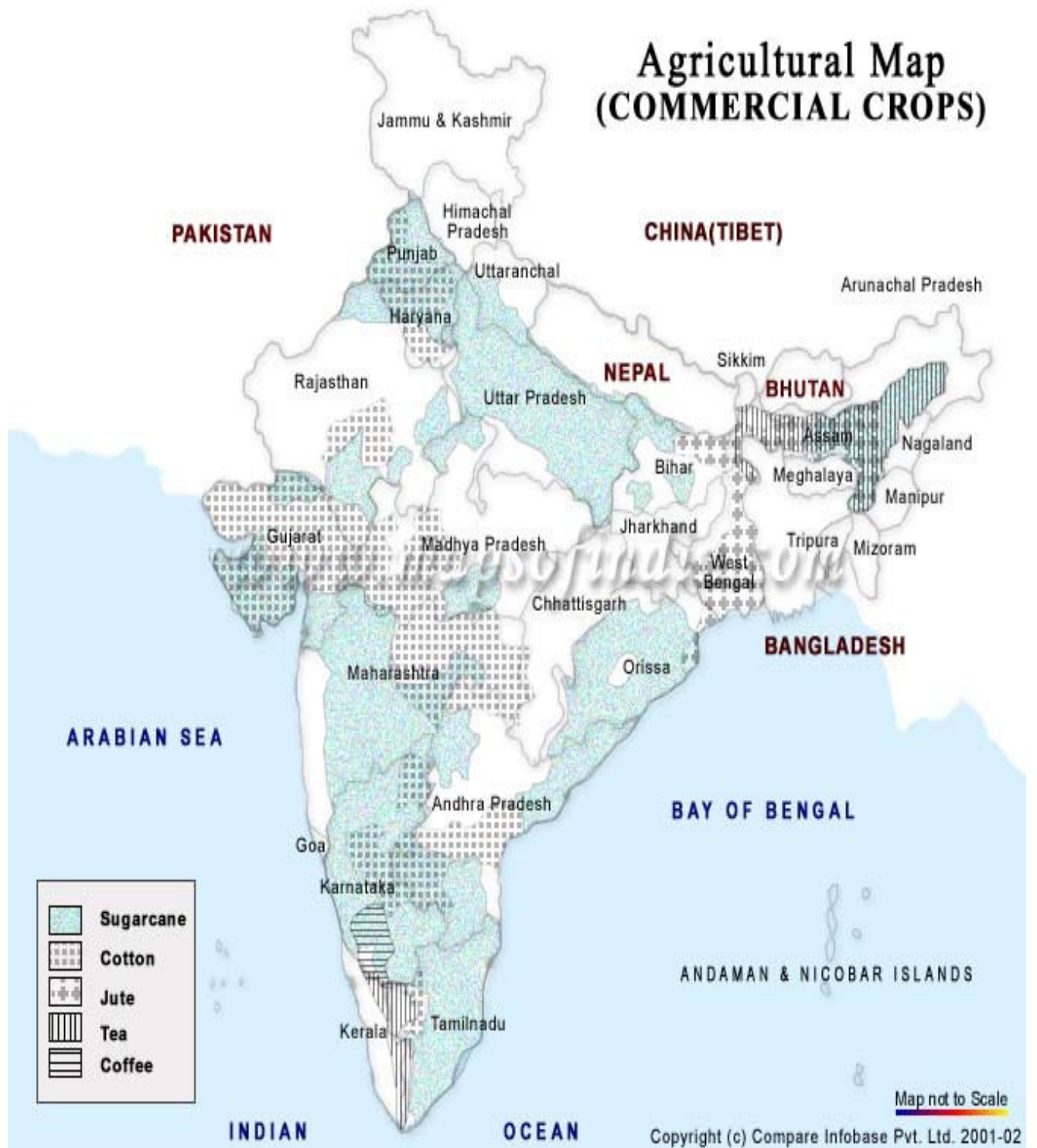


Fig. 2.4: Areas covered by main commercial crops Source: Maps of India (mapsofindia.com)

Looking at all these crops, it 's astonishing to see the rich variety in crops, leaving it no surprise that the Indian kitchen is so full of taste and has so many different dishes.

## **2.6 Women in agriculture**

### *2.6.1 Position of women in agriculture; cultural ideals*

When it comes to the role and position of women in agriculture, there are a lot of aspects to deal with. Certain aspects determine eventually what one's role in general and that of women specifically is. This also differs in space and time. Different regions will have different customs and also different activities in agriculture. In order to get a good view of the situation of women, a several highlights will be discussed.

First of all there'll be looked into the cultural aspect; how should a women suppose to behave and what is her task. Then the socio-economic items will be examined; reality doesn't always agree with the ideal. Economic arguments often overrule the cultural aspects; people need to eat. Sometimes women do need to help; how do the women stand here? What becomes their position due to socio-economic developments and the activities that are performed by women will be discussed. In the last section the role of women in Karnataka will be specifically described.

Every culture has it's written and unwritten standards of how their members should behave. Both men and women should uprise to surtain expectations in order to gain status and to be accepted in a social network. These values differ from time to time and for place and even sometimes for groups within a society, including gender patterns and also areas within a society like rural vs. urban. For example, in medieval Western-Europe, Roman-Catholic faith played an important role. mendicants were in some way highly valued and an object of thanks; they enabled the people to give alms, which was considered a good act, hence bringing them closer to salvation, because the more good acts one performed, the less time one had to spend in the purgatory. Comparing this to current values of the West-European Society, the position of endicants almost changed 180°. Baggers are seen as outcasts of society and just 'annoying'.

Values also differ in place on earth; whereas 'Western' countries tend to value freedom of speech as an important aspect of daily life, some 'Eastern' countries think differently of it, considering it as not the most important thing, valueing certain socio-economic aspects higher (stable society).

And even within societies different groups have sometimes different values, though often still acknowledge each other as a part of society. Comparing different youth groups with each other, like gothic and Lonsdale; both with different behaviour and values, but both accessories of the same European society (non of these groups for instance, have occurred in India).

But cultural values aren't only determining one's beaviour on a more abstract level, whether in formal or informal networks (for instance taking care of the sick and disabled, visit your family), they also have an economic outcome. Looking back to the exmple of the European medieval society, another aspect if the catholic values was that trade was forbidden. If one was still involved, they had to pay a lot of money to the church as a kind of reconcilliation. Trade in essential became then the domain of the jews and other people who weren't accepted in the honorable guilds.

Male and female members of society also have different roles (gender); this also differs in time and space.

In West-Europe and South-Asia will occur different views on the role and position of women in society. The cultural values give an essential view on the conduct of women; they can explain why sometimes, even against logic, some things happen as they happen. Why they would or wouldn't do certain activities.

This is very much the case in India, while family honor is an important aspect of the status and position of people. If your family is in disgrace, then so are you, hence your life isn't much of a delight any more. You're counted for nothing in the community. In South-Asia, it's the woman who bears responsibility for this family honour (Sharma, U., 1980). When a woman behaves properly, shows the conduct a woman should, she can even upgrade her family's honour or at least maintains it as it was. But when she doesn't behave, the way a woman should do, she brings not only her own reputation, but also her family's in discredit. It leaves a blot on her and on her family. This can have consequences for the woman in finding a (good) husband, ultimately being left an 'old maid' which brings even more disgrace over the family (Sharma, U., 1980). This good behaviour in the case of South Asia is expressed in the fact that women should be as much 'invisible' as possible in the public space. For Muslims this even means total Purdah (public invisibility). All things women do in public, all her conduct outside her home, affects her next kin, hence they're concerned about her behaviour. This concern, influences all the activities she can perform outside the house. Though the male's behaviour also affects the family honour, perilous, then the woman's conduct (Sharma, U., 1980).

A woman should give full respect to her husband in the home; this is seen as sign of keeping the harmony and confirming the role patterns in order to satisfy the extended family. The husband doesn't show much of affection to his wife; this reminds the wife of her status of 'bahu' (daughter-in-law). It's important not to disrupt the joint family in any way (Sharma, U., 1980).

Purdah is an important factor in this and it also gives a strong indication of status; the ideal in the villages is that a woman stays at home, in their own courtyard. She shouldn't have to perform any farming activities in the field (Sharma, U., 1980).

A Hindu man gains status if his wife stays at home and the wife enjoys to be the woman which is taken care of. But in order to be able to let his wife stay at home, out of public space, the farmer needs to have a certain level of wealth, hence he needs to pay the workers on his land. This shows that even living a moral and socially correct life, is connected to one's possession and wealth; poor women can't stay at home and maintain menstrual seclusion or other forms of rituals. Their husbands don't have the money to take care of the whole family; the wife is needed in the fields. Poor people don't only suffer from a lack of material welfare, but due this deficit, they suffer as well from a lack of moral and cultural richness; they're as a matter of speech victimised in two ways (Sharma, U., 1980).

The translator also told this, that the ideal in Hindu-society is that the woman should stay inside the house, that gives status to the family; she shouldn't work on the land, that's a sign of backwardness. Given the climatological situation in India, working the land certainly wouldn't be a sign of liberation; dabbling in the fields under the hot sun, isn't really a joyful action.

In colonial India, women were largely employed in the commercialised agriculture in the rural areas, domestic work in the urban households and prostitution (all jobs in the unregulated sector), but this employment wasn't so much a sign of emancipation and equality, but a tragical suffering. They lived and worked in rather painful circumstances (Forbes, 1996).

Looking at the explanation given above, it almost seems that Purdah is as much as an economical phenomenon. But the question always is, what came first; was it a cultural thing; women should stay at home, but this could only be practised by the rich or was it the opposite way; rich people could effort to let their women stay in the house and due to the fact that material wealth gives status, the conduct of these group became also the cultural norm, soaked in religious values. Most certain is, that Purdah does influences the economic activities a woman can unfold.

Purdah is closely related to Islam. In the pre-muslim era (before the Mogul empire), women had less stringent rules regarding the appearance in public space, though this

the tendencies of seclusion were already present in the Hindu ideology and daily life. The Muslim Rule for all strengthened these tendencies (Sharma, U., 1980).

In the ancient times, women also received religious and military education and were equal to men. Though already addressed to as Prithvi (mother earth). By the time of 300 B.C., the position of women deteriorated, when the Aryans entered the country. Male children became more wanted; the Aryans wanted them to fight and because of the large numbers of manual labourers, the need for the women's contribution diminished, hence lowering their status (Rath, N., 1996).

Manu created a law-code for Hindus in which the position of women became more dependent and subservient; a girl was dependent on her father during childhood, her husband during youth and her son, when being old (Rath, N., 1996). Hence a woman was never an individual, but always related and subordinate towards some male figure.

In a certain way, Manu's statutes can be considered as giving a high status to women (Sharma, R.N., 1979). Contrary to Rath's interpretation, R. N. Sharma claims that in the village, a woman is highly favoured. Women do work with men in the fields, except for the high caste women who have to stay within their house, this is a commonly shared view apparently. But when it comes to interpreting ancient religious and cultural remarks, it's always difficult to find the true, essential meaning, while these writings were created in different times and different situations. What seems in modern times as backward, suppressing ideas, may have been in earlier times and other places rather progressive and renewing.

Still some of Manu's ideas found their deposit in the fact that the joint family-concept became very leading and widow remarriage was banned. Being a widow was a disgrace and a sign that this woman was a sinner (Rath, N., 1996). But with the introduction of child marriage, the number of widows logically increased. Altogether the position of women deteriorated quickly, fastened and strengthened by the foreign invasions. In order to prevent that the women were captured and tortured, they weren't allowed to go outside the house frankly; the inside home was the safest place. As a result, education and other outside activities were forbidden and together with the now wide-spread customs of child marriage, polygamy, Purdah and the exclusion of women from property ownership, the position of women in medieval India deteriorated pretty much (Rath, N., 1996). So Sharma was right when stating that the Muslim rule wasn't entirely to blame for this situation.

While after the Independence, the laws were certainly improved for women, the legal rights were embodied in the constitution, practice is more refractory. Today, people still prefer a boy-child towards a female baby, literacy rates among women still lacking behind men's often caused by the image and view society has of women; due to conservative social and cultural values, gender discrimination, but also poverty and a lack of infrastructural facilities will lead to this (Rath, N., 1996). Further, women also don't work outside the home very commonly. Domestic work and running the household still dominates her daily life. The women who do work outside the house, often get less wages and are underpaid (Rath, N., 1996). Hence women finding themselves in a vicious circle, due to the fact that they don't have proper education, they can't find a job in the emerging industries and service sector, hence they get valued less and aren't found worthy to give proper education to.

Post-independence India has much more become attached to the nuclear family model; joint family is not been seen as the ideal situation, although a nuclear family can also encompass the husband's parents. This nuclear family gives a more equal position of women to men; they both make the decisions regarding the household. Child marriage has also gone down, due to a more wide-spread education (though education of females stay behind that of males, but as a whole education-levels have increased compared to the ancient times), together with social laws, consciousness about marriage has risen and both the marriage age of males and females has gone up (Rath, N., 1996). These are signs of the improved status of women.

On the other hand, this practice has brought Dowry-system back alive. If the bride's parents don't pay this treasury to the groom's parents, her life will certainly become pretty nasty (Rath, N., 1996). So in one way, this outcome of the dowry-system makes that parents prefer again a boy over a girl, which consolidates the dominant position and status of men in society further more.

In today's village life, the man is superior to his wife; though this doesn't mean that she is completely victimised (Sharma, R.N., 1979). In the Hindu families, the woman is considered as an image of Lakshmi, the Goddess of wealth. She has equal rights in the decision making of the family affairs, especially among middle-class families. The poorer households, men and women both do the work outside and inside their home. High caste women have, as stated before, observe Purdah (Sharma, R.N., 1979). The other castes, are neither completely free of Purdah, though only less stringent as the highest castes (indeed for her husband's father, brothers, grandfather, uncles, but or the younger brothers). The lowest castes are less tied to purdah, it's not really an issue (Sharma, R.N., 1979).

Resuming the situation drawn above, the cultural position of the women, especially in regard to Purdah seems like a combination of historical events and the fact that economic wealth (usually being the high castes), creates the opportunity to leave the wife in the house and material wealth mostly gives already status in itself.

In the current situation, women are still mainly seen as a wife and a mother; that's the standard (Rath, N., 1996). A view which is widely spread throughout society. Together with the Purdah notion, which can obtain sometimes different interpretations by different castes (Hindu-Muslim, but also between different Hindu castes), though in general always meaning a limitation in the woman's freedom (it narrows down her activities to perform outside the domestic sphere) and the fact that one has to obtain the rules and restriction in regard to caste (remain of purity), gives the cultural setting in which the women in India have to operate in their daily lives (Sharma, U., 1980).

### *2.6.2 Social-economic position of women in agriculture*

The agricultural sector depends for large part on women; though most of the times not being registered or considered as a real worker, 80 % of the women in 1981 was involved in activities concerning the primary sector; if the women work outside the house, it's often in the lowest categories; earning little and have less status (Rath, N., 1996).

Looking at the ideal of the women's behaviour, working outside the house is not preferable; it's degenerating one's status. Still, considering these numbers of 80% of the women performing in one way or another agricultural activities. So there appears a gap between the ideal and reality.

One consequence that certainly derives from this image of the wife staying at home performing domestic activities, is the idea that because of this image, women could be underpaid, whilst their job outside the house is undervalued (Sharma, U., 1980).

In the semi-arid area of India, the household is the basic farming production entity. The man is usually the head of this unit, furthermore consisting of the man's wife, his (married) sons and their wives and children. The daughters leave for marriage (Put, M., and Van Dijk, M.P., 1989). Sometimes it is possible that a widow is the head of the household, otherwise then Rath says, in some situations, they can have some power and status .

Put's view is confirmed by Ram Nath Sharma (1979); the father is the 'pater familias', the authority of the family; everyone should give him respect. The rural family is also an economic unit; production, distribution and exchange are all set up from the family

Most of the times he's also the head of the family, in terms of possession and property; he owns the plots of land, the farm and the other valuable goods (Sharma, R.N., 1979). In some cases the women's status in the family is higher than the men's, mostly due to a decease of the other (male) members. Though, seen from the perspective of the village, such families are less counted for, village people look down on them (Sharma, R.N., 1979). So it's never fully accepted that a woman is in charge.

Not the individual, but the family is dominant, playing the lead role.

Within this household, every member above ten years old is a potential labourforce (Put, M., and Van Dijk, M.P., 1989). Some farmers hire coolis to weed or harvest. When they are poor households, though still have farmland of their own, but need money, they go into service of another farmer as a daily labourer. Thanks to low yields, nowadays quite some households are involved in this; working somebody else's land as a coolie; men, women and children all give a hand in this. Most of the times, it's only for a few days a time (Put, M., and Van Dijk, M.P., 1989). Agriculture is a harsh occupation, nature elements, low investments and traditional technologies, lead to a rather low production. Many farmers need the additional income in order to make a living, reach out to the subsistence level. A lot of these farmers, hence look for employment elsewhere. Within agriculture there ain't often a job, so people find other ways of employment (Put, M., and Van Dijk, M.P., 1989).

Jobs that are to be found within agriculture, occur in two types (Bliss, C.J. and Stern, N.H., 1982). The first one is already referred to in this paragraph, it's the worker who gets a cash wage, most of the times for one day, sometimes including a midday-meal; a coolie. The second type of labour is a 'share contract'. The labourer receives a part of the work he produced; a share of the output, usually 1/20<sup>th</sup> share of the crop (Bliss, C.J. and Stern, N.H., 1982). Not surprisingly this latter kind of labour contract is especially used during harvest time. Groups of labourers perform this harvesting, including the women and children of the lower castes (Bliss, C.J. and Stern, N.H., 1982).

Brahmin women won't work on the field, because of their status; they shouldn't perform labour (Put, M., and Van Dijk, M.P., 1989). This is against to the cultural values and lowers their status.

In the Punjab with the large commercial farmers, working on one's own farm is not considered labour of a lesser kind. Though it must be stated that this comprises not the heavy physical labour; that's done by the hired labourers. The landowner himself does the supervising and all the activities including the use of machinery, like driving the tractor (Sharma, U., 1980). It is very important for them that they work for themselves, instead of being a *nokri* (someone giving services to other people), like the executives who work in offices in the towns.

Still, for the agricultural labouring women there is not so much of an experience of independence as they work the fields; they depend on their husbands, who own the land. And in the case of the wives of the commercial farmers; they didn't do any outdoor agricultural activities, but also had only little saying in cases like management and supervising.

A key element, is the degree into which woman's work (and the rest of her life, like child bearing) is controlled by her husband and her *sās* (mother-in-law) (Jeffrey and Jeffrey, 1993). Especially within households, women's work differ from that of men, even when men and women are family workers instead of employees.

Household members have interests in common to a certain level, since men and women, young and old, have different rights in household resources. Household members are recruited in two ways-by migration and birth-in both of which young women have a distinctive part. The material conditions of their existences thus differ from those of men and from older women too (Jeffrey and Jeffrey, 1993).



When the family income increases, the women withdraw from the agricultural activities outside the house (Sharma, U, 1980). Back in the colonial age, a lot of women used to work in the field.

Due to the enhanced use of modern technologies, including irrigation, the green revolution and sometimes even the opportunity to buy more land, the yields became higher and therefore families generated higher incomes (Sharma, U., 1980).

This was invested in luxurious goods and things: like status increasing articles and leisure time. But in order to assure the work was done, they hired labourers. These labourers performed tasks that often used to be done by the women of the farming households. After independence (1947) this situation especially occurred in the middle-groups; women of the tenant classes and the landless labourers are still active as agricultural workers (Sharma, U., 1979).

Next to the fact that certain female tasks, like threshing or watering, could easily be mechanised, it made that a lot of women stepped back from their agricultural activities (Sharma, 1980). All of this being encouraged by the fact that some religious, ideological thoughts favoured the situation that women should stay in the house, both on Hindu as well as on Muslim-side (Sharma, U., 1979).

Though, there is a more general cause of the symptom that women withdraw from agricultural activities. Developing countries, which come to deal with capitalist farming at one point or another, show in certain cases a decrease in the opportunities for women to participate in agriculture and to profit from this participation.

This has several causes; firstly, when it comes to capitalist farming one has to deal with business-contacts, like dealers, commercial firms and government agencies (Sharma, U., 1980).

In order to make a living as a capitalist, commercial farmer, the farmers need to work on a large-scale and hence make frequently use of modern technologies. But these technologies are controlled and spread by men. Even more than the fact that these technologies had to consequence that especially labour performed by the females became superfluous, it was this solid male control of technology that made the withdrawal of women more like a push-out (Sharma, U., 1980). India had to deal with this situation as well.

Unlike U. Sharma, Ramamurthy (1993) argues that the Green Revolution, has led to more work for women, both inside and outside the house.

According to the modernization theory, intensification through technological change in agriculture (for example, the introduction of irrigation and the Green Revolution package of seeds, fertilizer, etc.) is supposed to lead to the following general benefits: an increase in agricultural output through, an increase in Yields of existing crops, also an increase in the gross cropped area or the bringing of land previously not cultivated under cultivation, an increase in the cropping intensity or the number of crops planted on a given plot of land and a shift to a higher yielding strain of crop.

Secondly an increase in the demand for labour time through: an increase in gross or net cultivated area, an increase in yields and therefore harvesting operations, an increase in the overall care and supervision necessitated by the new varieties and an increase in the number and kind of agricultural operations as a result of a change in the cropping pattern (Ramamurthy, 1993).

But for different women, this will have different consequences. First of all women belong to households that differ in access to land, other means of production, and wage incomes. Hence, the conditions of work for women of cultivating households on family farms or in the home and agricultural labourers-depend on the survival strategies of households, especially in regard with the means of production and to rural power relations (Ramamurthy, 1993).

Second, women are members of rural households, and their relationships with other members of these socio-economical units, are in relations of domination or subordination. As was stated before, gender and age, are influencing this hierarchy



(Ramamurthy, 1993). The external rural power links and the internal family powers, embody the dependence from women and the denial of a woman towards the access of property, income, and active participation in public life (Ramamurthy, 1993). With the introduction of irrigation and the intensification and diversification of agriculture, the demand for women's labour has increased (Ramamurthy, 1993). But the discrimination against women continues in the form of lower wages or exploitative piece rates for all exclusively female jobs. This is possible because it upholds and is derived from a patriarchal vision of the male as the primary breadwinner and the male wage as the main source of family income. The fact that women's wages are viewed as supplementary explains why they are willing to work for lower wages than men (Ramamurthy, 1993). Dependence on men is further reinforced through labour relations; women who are connected to male attached labourers have higher chances of securing employment. Paternalistic relationships with cultivators increase the security of workers' livelihoods and the chances of being able to borrow in contingencies. The system of patriarchy is thus independent, but narrowly linked to the structure of exploitation based on class. It has also a material component; it can allow itself to pay down gender based wages and even class-based wages (Ramamurthy, 1993). Hence, rich landlords gain larger profits, whilst agricultural families suffer in order to get at least the most necessary life-needs, almost dealing below the subsistence level. Due to this, they have to get loans and dependency on the rich increases (Ramamurthy, 1993).

Though the low-caste women had pay-jobs, they still had to do the domestic activities. This is showed in most of the cases; no matter how the activity-patterns change, men do never take over the domestic work-load from women (Sharma, U., 1980).

On the other hand there are also examples of high-caste people, like Brahmins, who became poorer over time and whose women had to start working in the fields full-time in order to make both ends meet (Sharma, U., 1979).

In the traditional Hindu-society the ideal is that the wife should stay in the house and fulfil the domestic / household activities (Prof. dr. Nidagundi conversation 2005). All together these are really a day-task (Prof. dr. Nidagundi conversation 2005): to start she has to clean the house every morning, this is to see if there is any vermin (spiders, snakes, scorpions, lizards, cockroaches, musquitos) hidden, so she can remove them and she also cleans the stalls; another very important duty is the preparation of the food, mostly all the women of the family are involved in this and they are preparing food for the whole day, not at every occasion such as breakfast, lunch and dinner. Next she'll do the laundry; after all family-members have taken their bath, that is she can take then all their dirty clothes with her, she's off to the washing-place. This can be the river or pond or lake or well. After the washing she lets them dry in the sun and sometimes furthermore on the way home. In most cases the distance from the house to the washing-place is about 1-1.5 km, like a 10-15 minutes walk. Usually she goes with family or friends, this is to safeguard her and to have some fun during the washing activity. In the festival- and fair-season she gets sometimes help from male family members or male labourers, because then she has so much laundry; everything from clothes to sheets has to be cleaned before the fair. When the family owns cattle, the woman has to go grazing the cattle. This has to be done at a proper place; at the community-ground. The cows, bullocks, sheep, goats and buffaloes may not disturb nearby fields and farms and plantations on their way, otherwise she gets problems with the owners, so she has to attend the animals all the time. Then she takes the cattle back home in the evening. Besides the grazing, she has to do the milking of the cows and buffaloes.

Cleaning the grains is also one of the housewife's jobs, though this doesn't last the whole year, only after harvesting.

She has to make the flour by herself as well; this is a more returning activity while she won't prepare the flour to far ahead, because It will be tainted then.

In order to cook or to warm the house, there has to be fuel. In most agricultural sites this will be dried cowdung. Now it's the female's task to collect this.

Like the cowdung, the woman also has to collect the fodder; mostly these are some leaves or hay to feed the buffaloes and cattle in the stables.

Most of the houses in at the countryside and even in the cities are not linked up to the waterworks, so the water is derived from a source; this is also the woman's task.

Being a housewife is a busy job as one can read, but it gives status to a family if the wife stays at home and surrenders herself to the household. When the wife doesn't work outside, it means that the husband can take care of his family and that they are rich or at least have sufficient money.

It was always the case that the high-caste women stayed inside, being dedicated housewives and the low-caste women had to go out working in the fields. Though in the case of the high-caste women; in name they were housewives, in practice a housekeeper did most of the domestic jobs.

But the Low-caste women, they had to work as a cooli or do some other low job, for instance go to the market and sell things or help in "beedi-making" (a kind of cigarette) and in the case in Dharwad work in the brick-industry.

But where-as the quantity of work in agriculture increased as a result of the improved techniques, work which could be performed in a factory or mill due to the mechanisation, like the beedi-making, is lost for the women. Though this beedi making was very notorious because of its exploitation of women, it even became worse after the mechanisation, when the women lost their jobs, hence their meager income (Forbes, 1996).

Considering all the developments of the past years, even after the Green Revolution, and looking to the position that women had and have, hasn't changed radically. In quite some regions the women's work load, hasn't diminished, on the contrary, it has increased. Though, the view on women's labour stayed the same, still leaving them with a lower cash payment, 'while women do the lighter jobs' (Ramamurthy, 1993). Next to this payment is nowadays mostly cash, instead of in kind, hence lacking the benefit of the profits from higher foodgrains. Wages stayed behind the inflation. Besides, women still have to take care of the entire work inside the home. Land possession is rather scarce among women, as is the public participation (Ramamurthy, 1993). Their position in rural society is still lacking behind that of men, she's still being restricted in public life.

### *2.6.3 Agricultural activities performed by women.*

Agricultural activities that are typically done by women are: sowing, hoeing, weeding, harvesting and threshing and winnowing (Sarkar, 1995). Next to this, women also take care of side-activities as fetching water, herding cattle, collecting fodder for the animals, collecting fuel (grass, cowdung, firewood), carrying food for the men to the fields, preparing manures, storing and transporting seeds and food grains and repairing field canals for irrigation (only in irrigated areas of course). Other activities performed by women are a mixture of all kinds of odd-jobs like fishing, collecting wild fruits and vegetables (only in wet areas), selling dairy at the market and beedi-rolling (Sarkar, 1995). And they also are involved in all different kinds of artisan-crafts, like cane and bamboo weaving, basket-making, pottery, making of matches, sewing, weaving and tailoring. Herding the cattle was one of the most favourite tasks of many women and almost all the women did it (Sharma, U., 1980). Men usually do the physical heavier activities, like ploughing the field, levelling, irrigating and sow the seed (Sarkar, 1995).

Considering the animal draftery; though not the most important aspect of Indian rural areas, animals still play a significant role in working the fields for example or delivering

some milk and cheese. All the activities concerning animal care taking, are tasks of the rural women (Shilaja, 1990).

With all of this, women contribute for a large part to the family-income as well as to the national economy; more then one can say looking just to their actual earnings (Mittal, 1995). And while performing the activities in the field of agriculture, food production, forestry, animal husbandry, industry processing occupations, etc. they contribute to the growth of GNP and hence making a direct contribution to the national economy (Mittal, 1995).

## Chapter 3 The Site

### 3.1 General remarks

Although it's mentioned already, the exact place of Dharwad hasn't been told. Karnataka is a Southwest state in India, where people speak Kannada. This is one of the dravidic languages. This chapter will mostly discuss the physiological situation of Karnataka. In the second chapter something has already been told, but this includes local situation. Especially the soil will be discussed, while this black soil and red soil are the determining factors in Karnataka concerning agriculture. Dharwad is situated only few hundred km from Goa; in a straight line from Goa to the East. Hubli is not even 20 km from Dharwad, though being a smaller town by citizen-numbers, have more functions; like shops, banks, offices. Lingayats are a very important caste here; Lingayats play a leading role in society. The size of the state is 192,204 km<sup>2</sup>; this makes it the sixth state in terms of largest area. Bangalore nowadays is the 4<sup>th</sup> largest city in India and a centre of ICT.

'Karnataka' from Karnad ('Kar' in Kannada= 'black', 'Nadu'='country' or 'region') means 'the land of black soil'. As a matter of fact, the whole Southern Deccan (including a considerable portion of the present Tamilnadu) in ancient times was called Karnataka or Karnad, and thus the language and the people were called Kannada and Kannadigas respectively. The Karnataka Plateau forms a major part of the Mysore State and parts of Cannanore and Kozhikode districts of Kerala, are also included (Singh, 1995). Mysore is the official name; named after its former capital, Maisur, more correctly spelled as 'Maisur', a corrupt form of Mahisur. Its eastern, northern and southern limits correspond with the State boundary while in the west the 150 m contour roughly separates it from the West Coast (Singh, 1995).



Fig. 3.1: Sitemap of India (source: Maps of india)



Fig. 3.2: Karnataka state (source: Rambosek, 1978)

### 3.2 Red Soil

These two major soil groups occupying nearly half of the state's total surface having the same origin and they share many physical and chemical properties, often difficult to separate and very much identical to one another (Sharma, T.C., 1999). They are derived from the rock in situ or are deposited from the products of decomposition washed down by rain water to lower levels. Both are extremely leached and from bright red to brown, yellowish brown, or yellow depending on the hydration, and diffusion of iron oxides resulting from the chemical variety of rocks, though the red sandy soils have the widest occurrence. Peninsular gneisses and granites, and the red loams on the Dharwad sediments and igneous rocks. Of the two, the red sandy soils occupy (about 30 per cent of the state's total) covering most of the South Malnad the Tungabhadra river (Sarma, T.C. 1999).

Extensive patches of red sandy soils also Byadgi, Haveri, Shirhatti, and Shiggaon taluks of Dharwad district; the south-eastern taluks of Kolar district; and along the



western fringe of Kodagu. Red Loamy soils occur under higher rainfall conditions in a north-south : Malnad, west of the 100 cm isohyet through Belgaum, Uttar Kannada. Chikmalapur, Hassan, Kodagu and Dakshin Kannada districts. The tract is 30-35 km of Khanapur taluk of Belgaum district. It is much wider in Uttar Kannada and Chikmagalur districts, but very constricted in-between in Sora" district, where gravelly laterites encroach upon it from the west.

### 3.3 Black Soil

This black soil is the most important soil group in Karnataka. Together, they occupy more than 31% of the state's surface being predominant in the North Maidan in the districts of Be. Dharwad, Bijapur, Bidar, Gulbarga, Raichur and Belaiy. Parts of Chitradurga district a&have black soils. Black soils are derived from a variety of rocks including Deccan t-as. Cuddapah sediments, and even Dharwad rocks. They have been formed under high temperature and low rainfall conditions and are comparable with 'chernozems' of Russia az:

the 'prairie' soils of USA. They are also called 'regurs', 'black earths' and 'black cotton soils'.

The distinction between the shallow, medium, and deep black soils is made due to the profile, though, several other important characteristics also can be differentiated. The shallow black soils (less than 30 cm deep) occupy the upper slopes. They are hence more eroded and leached. They are highly susceptible to erosion (Sharma, T.C. 1999). Due to presence of iron oxides, their colour is brownish. Large Blocks of Bijapur and mdi taluks of Bijapur district and Hadagalli and Kudligi taluks of Bellary district have shallow black soils. The medium black soils (30-100 cm deep) coffee brown-to-black in colour, commonly occur on plateaus and they are moderately leached. Such soils occupy the plateaus between the Bhima and Krishna valleys in Gulbarga and Bijapur districts; between the Don and Ghataprabha valleys in Belgaum and Bijapur districts; in the north-east surrounding the laterite soils in Bidar district; in parts of Kundgol, Gadag, Shirhatti, Shiggaon, Mundargi, and Haven taluks of Dharwad district; in Yelburga, Koppal, Sindhur and Gangavati taluks of Raichur district; and in Hosdurga taluk of Chitradurga district.

Deep black soils (more than one metre deep) occur on valley floors. They are slaty black in colour and of largely depositional nature. Two broad east-west belts of deep black soils run across the North Maidan. One of these about 20 km wide runs through the valley of the Bhima river through Gulbarga and Bijapur districts and the other one up to 30 km wide and longer covers the Krishna-Ghataprabha valley through Raichur, Bijapur and Belgaum districts. A branch from the latter runs north-west roughly from near Lingsugur to Bijapur through the don valley. Parts of Nargund, Navalgund, Ron, Mundargi, Gadag, Dharwad, Hubli, Shirhatti and Haven taluks of Dharwad district also have deep black soils. In chitradurga district, deep black soils occupy a belt through Jagalur, Davangere and Holalkere taluks (Sharma, T.C. 1999).

The black colour of these soils is variously attributed to the black mineral titanite magnetite, which commonly occurs in them, to compounded particles of hydrated aluminium oxides with complex organic compounds of iron and aluminium, to the association of organic matter with the high base status and alkaline conditions in the soils has attributed it to the presence of organic matter in a fully saturated condition and reduced iron in finer fractions (Sharma, T.C., 1999).

Regarding their origin, these soils are a result of peculiar climatic conditions in which carbonic solutions formed by the decomposition of organic matter move downward and the solubilised calcium, magnesium, sodium and potassium move upward as carbonates due to intense evaporation at the surface. The carbonates in mm react with the organic humus at the surface to give the black colour. Gerassimov (1958) has compared Indian regurs to the soils of the 'Tirs' of North Africa and the 'Smolniczy' of

the Mediterranean and according to him, and climate and petrographical peculiarities of the parent rocks are responsible for these soils. Impeded drainage has contributed to their formation in some low lying areas.

These soils are also rich of iron and lime, magnesium and alumina (Sharma, T.C. 1999). Due to their fertility, their growing a lot of crops; chilli, cotton, but also sunflower and tobacco.



## Chapter 4 Women in agriculture in the Hubli/Dharwad region

### 4.1. The Hubli/Dharwad rural-urban fringe household

#### 4.1.1 *The East –Side*

Driving Eastwards from the centre of Dharwad, the atmosphere soon is changing. Buildings become more decorated; wooden houses with balconies and paintings on the wall and narrow streets. Driving a little further, just outside the main builded area of Dharwad, the landscape becomes empty an widely. Endless plains of black soil burning in the sun. Only now and then interrupted by some small bushes. But most of all, this black soil for miles and miles.

In the nearby surrounding of Dharwad there were some neighbourhoods and a little further there were several villages, but most of them were under the smoke of Dharwad; one could see Dharwad from far.

At the time of the interviewing, people started to prepare for the coming agricultural season; May/June was the off-season, but half of June things started already. All along the road women were preparing the field (getting the dirt from it) or even weeding. This was mostly in the irrigated areas; some plots of land were here irrigated.



*Picture 4.1: Women cleaning the field; Dharwad Outskirt (East side)*

When it came to landownership, almost all the women interviewed, were coolis; 78%. (29 out of 37). In this case there were also some women who were also a landowners wife, but also ad to work as a cooli. Just as discussed in chapter two.

Some of them really owned a pretty large plot 16 acres, but most of them only very few, 1 acre. The East-side of Dharwad is typically an area with large farmers, landlords with large plots of land, sometimes irrigated and a lot of coolis.

The tilled crops were quite distinctive: jowar, tilled at every plot of land we stopped, wheat, groundnut, chilly, potatoe, cotton, onion and all kinds of vegetables.

Looking at the differences between activities of the coolis and the landowners by period, there aren't so many differences. Every women interviewed was involved in cleaning the fields. The same was for sowing season, every women gives seeds. Spreading the fertiliser was a little more rare, but the women who did it, were coolis. Sowing by hand was much more common (comparing to men; they sow by a little implement) and neither was there any distinction between cooli and landowner, both were doing it. Looking at the differences between landowners-wives and coolis, it's astonishing to witness the lack of differences. All the women were involved in weeding and during harvesting time everyone was cutting and binding and quite some women were winnowing.

The fact that only so few women owned land and that if they owned land, it was only a small plot, may have influenced the outcome in the differences in activities. It might have been that the larger farm-wives did other things. Maybe the landlords wife could obtain Purdah.

Looking at the activities performed by women, they're corresponding to Sarkar(1995) description.



*Picture 4.2: Women sowing by in the black soil in the outskirts of Dharwad (East side)*





*Picture 4.3: Weeding women in Govankop (East-side)*

Most interviewed women were Hindu, only a few Muslim. From this Muslims non of them was a land-owner. When taking a closer look towards the subcastes, it appears that especially the Maharatas are in the landowners in this area; not one interviewed Lingayat owned land. This was surprising, while Lingayats were traditionally the agricultural caste.

Nuclear families were most common among the people; only a view people lived in a joint family, bu this wasn't so muc related towards caste. Muslims and Hindus both lived in nuclear families, though one should keep in mind that a nuclear family according to Indian standards, may include the husbands parents. This phenomenon of the son taking care of is parents, is so current that it almost never occurs that son doesn't take care of his parents. Still not every nuclear family was build up of husband, wife, children and grandparents. Their were also families without grandparents.

Considering the demographic phase of most families, they most generally spoken, were in the 'midlife'.; families with children and of whome the grandparents were still alive. Activities were all pretty muc the same. There didn't appear anything shokken from the interviews. All the women, although from different households, performed nearly all the same activities. Being a woman may be more determing for the work one does, then any of these household characteristics.

One special activity requires attention; herding the cattle. Though not linked to a caste, within these category, women have special tasks. The women which are involved in cattle management, almost all do te same things: feeding, cleaning and milking. But most of the women active in cattle-herding are landowners wives.



*Picture 4.4: Old Lady herding te goats, in Govankop, (East-side)*

#### *4.1.2 The West-side*

Looking to the West-side of Dharwad, the landscape couldn't differ more than that of the East-side. The red soil gives a total different view compared to the black soil as does the relief. The West has hills and very much differences in the relief. Besides, it was less dryer than the East-side and not as hot. It's got also a different cropping pattern. This is the area in which paddy crops dominate. A little bit of rain will do in order to turn the red dust into a green field. The rain in itself is enough to make the paddy grow; irrigation isn't used here.

Generally speaking, all the farmers in the West till paddy; from the interviewed women only one didn't work on land where paddy was grown. Another quite common crop was jowar, this was also tilled by a majority of farmers. Cotton and maize were found as well, maize (corn) was a specific crop of some western villages, it never occurred in the East side. Cotton was, unlike the East-side, a rainfed crop in this area.

Besides the crops, the land-ownership was also different from the East-side. In the West, there were more people who had plots of land for themselves instead of being only a coolie. Much more women in the West are wives of landowners, than they were in the East.



Occupation of women in the West

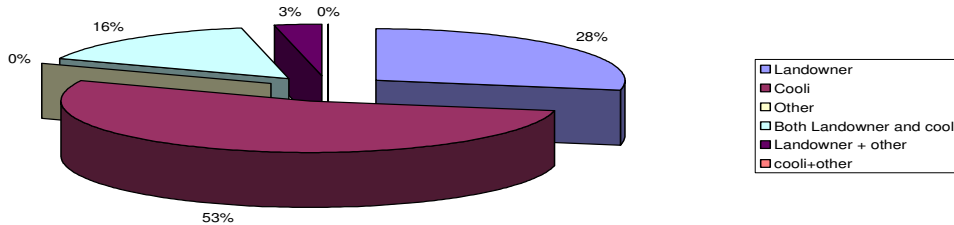


Fig. 4.1: Part of landowners in total interviewed women in the West

The differences in activities performed by women of landowners and coolis is here also neglectible. Cleaning, weeding, sowing and giving seeds, giving water for spraying and cutting and binding are all performed by almos all the women. Except for winnowing, which isn't as common in the West as it is in the East, every activity in both sides concur with each other. Winnowing is not done here, rice and maize don't need to be winnowed, only jowar.

Still Dipali refers to these activities as well for paddy cropping in Karnataka (1979). She states that te women do winnow te paddy.

Regarding to caste, Lingayts as a subcaste tend to have more often land then in the East side, though still not every Lingayat is a landowner any more. On the other hand, only few other caste-members, for instance one Madr, did possess land.

Demographic phase of the household hardly influenced the activities or land possession; all the women do te same activities. Herding the cattle is no exception in this. Here the herding women, most of the times also do possess land.

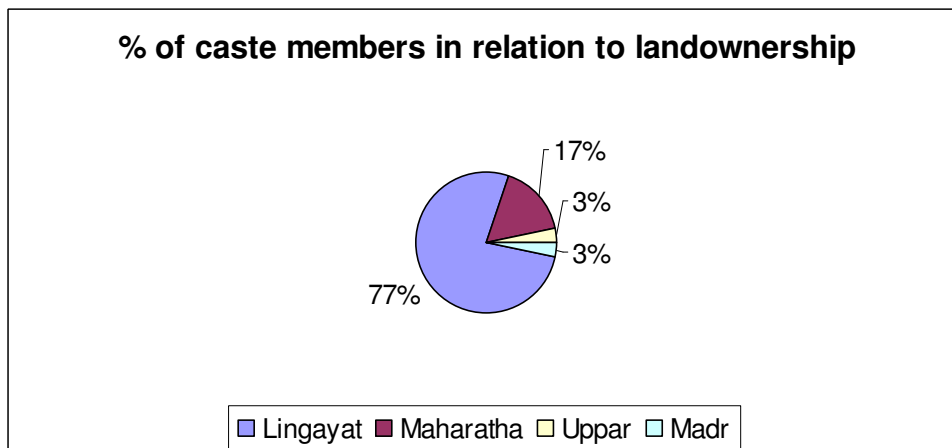


Fig. 4.2: Caste in the total percentage of landpossession

In regard to the transition zone, actually all the things were the same; being of course close to one of the zones; neither did they show any kind of pattern regarding these variables.

## **4.2 Women at an individual level**

### *4.2.1 East-side*

Looking to the women's age, level of education and marital status, in regard to the activities the women perform, one could almost be disappointed. As with the activities on a household level, all the women perform the same activities. It almost seems if nothing else matters, only the fact that she's a woman. Even level of education doesn't show any differentiation. Perhaps this is caused by the fact, that from the women received education, 100% only had some years primary school. In terms of an education and be able to make a career, primary school is still low education which doesn't give any perspective to a higher job.

### *4.2.2 West-side +transitionzone*

Both for the West and the Transitionzones marital status, education and age have a neglectable influence on the activities women perform. These women almost all perform the same activities. There weren't any of these individual characteristics, leading towards some relation with the activity, other than the fact that everybody performed it.

## **4.3 women outside agriculture**

In the area outside Dharwad/Hubli, most people interviewed were always involved in agriculture; even during the off-season; their husband would take care, or their was just some work to do. Little differences here were found between the east- and West-side, were in the latter area, some of the interviewed women were active in the brick-industry, where-as in the East-side, nothing additional was found. The black soil isn't suited for brick making and due to irrigation, at least some activity was there in the off-season.

Though Jutle calls some (1999) activities like broomstick making, leaf plate making and rope making as common household industries, my research didn't give any such results.

## **4.4 Problems**

Most problems the women referred to, were the weather conditions; it hadn't rain for quite a long time, hence yields were rather low. The rain was a subject of great concern. Without the rain the sowing can't be done well. This was for a lot of women a serious problem.

Next best was the government; 'promising things, but never keeping them'. Guess where we heard that one before. Some women wanted that the government took care for them, but more than some vague complaints and criticism wasn't told. Probably due to the presence of other people, complaints about landlords or bosses, were seldom heard. And so became the biggest complaint, fumbling about the weather.

## Chapter 5 Conclusion

Looking into the activities women perform in the Hubli/Dharwad region, one can conclude that there are specific female activities.

Cleaning, weeding, sowing and giving seeds, giving water for spraying and cutting and binding during harveting time are all performed by almost all the women. Except for winnowing, which isn't as common in the West as it is in the East, every activity in both sides concur with each other.

Caste only plays a little role; most landowning families, still belong to the Lingayat-caste and in the east to the Maratha caste. Though one can't say; all Lingayts own land. Some of the former agricultural landowning castes are only coolis now. The opposite happens seldom; lower castes still don't possess land. Brahmin women were very rare, indeed working the land.

Concerning the other variables, one can say that they may be important in daily life and for all kind of personal reasons, they don't have any influence on the activities women perform within the agricultural environment. Every woman does the same things, only sometimes strictly locally differing.

Demographic phase of the household, caste, nor landownership as a significant influence on the job a woman does.

Looking to the individual characteristics, these influence the activities even less.

Marital status, education and age are all inferior to the fact that all women do fixed things in agriculture.

The one thing that did come out was the fact that there were differences in cropping patterns between the East and West side, following in general the patterns as described in chapter 2.

Moreover the East-side had some irrigation, hence people could work more often; also in the off-season. Payments didn't however change much between these both parts.

An average cooli wage, was held onto 20-25 rupees a day (at that time, not even half a Euro), still mentioning that things of course are much cheaper in India.

In the field of Hubli/Dharwad, there was still a rather strict divorce between the males and females activities, hence doing this other work, shows in some way that a woman does perform less labour and should be paid like this.

Looking at the Hubli/Dharwad region, the most important item was the complete structured pattern of activities performed by women. It was in one way even surprising to see, how rigid the pattern of these agricultural activities performed by women was holding up. Every village, every caste, every community; it was a very clear labour pattern. At the end, performing all their specified tasks, if were the cosmological order (in a certain way of course, society's structure) depended on this fixed pattern, leaving the women the ongoing servants of Varuna.

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Maps of India  
[www.mapsofindia.com](http://www.mapsofindia.com)

## **Appendix 1:**

Questionnaire about women participation in agricultural activities

Name respondent:

Date of interview:

Place:

What is your occupation?

Where do you work?

- At home => what do you do?

- In the field => what do you do?

How many members are there in your family? (male/female)

What is your age?

Since how long have you done the activities that you now?

What did you do before?

If yes with 6, why did you shift from one job to another?

What did you earn now and then?

Is there a trend in increasing wage?

What is your education level and that of your family members?

If you didn't finish your primary school or high school, why was that?

What caste do you belong to? (also subcaste)

What is your marital status?

What is the travel distance from your house to the nearest occupation center?

Does your husband works in the city? (is he a commuter)

-If no, go to 18

-If yes, go to 16

Have the kind of activities changed since your husband started commuting to the city?

-if no, who does it then?

-If yes, how?

What happened to your income after your husband started commuting?

## **Appendix 2 :**

The present Research Project intends to undertake the study of the role of women's participation in agricultural activities in Hubli/Dharwad region

- Trijntje Buma

Problems to be examined :

To find out what activities the women do in the agriculture

To find the difference in agricultural activities between the East and West area of Hubli-Dharwad region.

To find the relation between age, education, distance to the city, marital status, caste, with the kind of activities that women do.

How do the farm women play a role in the decision making in the farming process.

Questionnaire about : The role of women's participation in agricultural activities

Name Respondent :

Date :

Place of interview :

Starting time :

Ending time :

Section : 0 East

1 West

What is your occupation ?

Agriculture  
Cooli in farm  
Other, .....

What is your age ?

15-19      4. 30-34      7. 45-49      10. 60 +  
20-24      5. 35-39      8. 50-54  
25-29      6. 40-44      9. 55-59

3. What is your Marital Status ?

1. Not yet married      3. Divorced  
2. Married      4. Widow

4. What is your education ?

0 - No education      1 - Education

Primary school  
High school  
Above high school

5. Why didn't you finish primary or high school ?

Poverty  
Family situation / problems  
Marriage  
Didn't want to go to school'  
Others, .....

6. What caste do you belong to ?

1. Hindu      2. Muslim      3. Jain      4. Christian  
Brahmin  
Lingayat  
Kshatriya  
Vaishya  
Sudra  
Others,.....

7. What is the travel distance to the nearest city ? (Hubli-Dharwad)

8. Where do you work ?

In the field

At home

Brick industry

Other , .....

9. Are the agricultural activities main or side activities?

0 - Main

1- Side

10. Do you have your own land?

0- No

1 – Yes, what is the size?

11. Are you involved in cattle management or herding other animals ?

0 – No

1-Yes

1. Feeding

2. Cleaning cowdung

3. Milking

4. Other, .....

12. What crops do you grow on the field you work on?

1. Paddy / rice

5. Peas

9. Other, .....

2. Jowar

6. Chilly

3. Wheat

7. Maize

4. Groundnut

8. Potato

13. What is the time-duration of your activities?

From :

1. 9 a.m.

2. 10 a.m.

3. 10 a.m.

4. Other, .....

To :

6 p.m.

6 p.m.

7 p.m.

Since how many years are you doing these activities?

Since childhood

Since 12 years old

Since 15 years old

Since Marriage

Other , .....

What activities did you do before?

School

Domestic

Cooli in somebody else's farm (Go to 16)

Other, .....

If option 3 by question 15, then what was the reason of change?

Marriage

4. Other,.....

Unemployed

Payment was low

What is your wage now and before ?



Now : 1. Rs. 15/-  
2. Rs. 20/-  
3. Rs. 25/-  
4. Rs. 30/-  
5. Other,.....

Before 5 years : 1. Rs. 5/-  
2. Rs. 10/-  
3. Rs. 15/-  
4. Rs. 20/-  
5. Other, .....

Before 10 years : 1. Rs. 5/-  
2. Rs. 10/-  
3. Rs. 15/-  
4. Rs. 20/-  
5. Others, .....

Before 15 years : 1. Rs. 5/-  
2. Rs. 10/-  
3. Rs. 15/-  
4. Rs. 20/-  
5. Other, .....

What was the reason of the wage increase?

19. What kind of family do you have?  
0 – Nuclear                      1- Joint family

20. Are there any other female family members involved in non-domestic activities?

21. What activities do you do during :

Preparation period  
1. Cleaning                      2. Other, .....

Sowing season

Giving seeds  
Spreading fertilizer  
Sowing by hand  
Other, .....

Spraying season  
Giving water                      2. Other, .....

Weeding season  
1. Weeds with instruments                      2. Other, .....

Harvesting time  
1. Cutting    2. Binding    3. Winnowing    4. Other, .....

22. What is your wage during each season ?

Same

Rs. 5/- more in sowing season



Do you influence your husband in decision making ?

0 – No

1 – Yes

New techniques

When to sow

What crops to grow

Other, .....

What are the problems you are facing ?

What do you expect from your government ?

Work during different periods

Preparation:

What is your role preparing the land for cultivation?

What is your wage there?

How many female family members are working there also?

To prepare one acre of land, how much labour does it require?

Sowing:

What is your role during sowing season?

What is your wage there?

How many days do you go for sowing?

How many female family members are working there also?

To sow one acre of land, how much labour does it require?

After the sowing season, what do you do?

Spraying:

What is your role during spraying season?

What is your wage there?

How long will you be working in the spraying?

To spray one acre of land, how much labour does it require?

How do you feel about the spraying in case of the health risk?

Weeding:

33.) What is your role during weeding season?

What is your wage there?

How many female family members are working there also?

For how long will you be weeding?

How much labour is required for one acre?

Harvesting:

What is your role during harvesting?

What is your wage there?

How long will you be working in the harvesting?

How many female family members are working there also?

How much labour is required for one acre?

Off-Season:

What will you do in the off-season?

If you work, what do you earn then?

Are there other female family members who work during this period and what do they earn?

What is the wage difference between season and off-season?

Other Questions:

47.) If anything happens to you, how do you earn money for your livelihood?

Will you get any materials during harvest time?



49.) During a festival day, do you work for more hours in the field than usual?

