
ECONOMY AND LIVELIHOOD PATTERN

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Economy and livelihood activities of the Doyas are closely linked with their natural environment and are “embedded” in their Kin relationship. It is difficult to distinguish the economic activities as defined in the modern economy from their social ways of life and beliefs.

Doyas live under the power of supernatural forces that rule their lives in interactions with their immediate physical environment: land, water, rain, forests, plants and animals all of which belong to their omnipotent and unseen powers. For them the “force of production” *per se* would also include the unseen forces who they have to always communicate with time and again for their agricultural productivity, to seek a permit to work on the lands and appease them for good crops through rituals of food and drinks offering and sacrifices of animals and

birds. For them the unseen powers are beyond their controls and they have no technology to supercede the whims and designs of the supernatural beings.

The whole of their social productive activities are in the first place governed by and organised under the whims and fancies of the omnipotent powers and is limited by the physical aspects of the natural environment within which they find themselves and the people who affect their livelihood in their immediate social environment. We shall try to see how the Doyas organize themselves for their production, distribution and consumption activities within their close kin groups and maintain a pattern of livelihood under the constraints of their natural environment and the domain of their supernatural forces. Secondly, how the people in their immediate surrounding affect their economy and livelihood pattern and thirdly, how the market economy is impacting on their traditional livelihood pattern.

5.1: Traditional Subsistent Economy

The richness of the natural forest resources in the sub-tropical junction of lower and middle Himalayas seems to have always nurtured the Doyas also in abundance of food grains and animals with simple tools and techniques known to them best. To continuously ensure this abundant livelihood out of their environment, they keep their supernatural lords who control over all the resources and live informed and pleased through ritual offerings from time to time.

All the materials required for housing are derived from the forests. Logs, poles, planks, bamboo, fastening strings, stones, roofing grass and leaves are all that are required to erect a house for them. Members of a consanguinal household participate in making the houses. The art and skills of erecting a house is a general capability of every able body. Almost all the matured men know the art of erecting a house and females do the supporting work in the house construction.

They had nothing much to depend on outside their society for their living if they had not been conquered and enslaved by the Drukpas and if Nepalese had not

immigrated into their territory and shared their natural resources. Except for a few essential commodities that they get in exchange. But perhaps, the human society would not leave any one community in isolation.

Extended consanguinal families moved freely in the vast expanse of the hills, along with cattle and ponies, authored land by slash and burn methods, forecast cereal seeds and produced enough food grains to store in the granaries (Tokim) at different places away from the Main houses (Makim). The food grains produced were much more than enough to run the whole seasons round for each and every household. They also produced plenty of dairy products but not all for themselves. It belonged to the rulers. They used to barter certain essential commodities such as cooking pots, salt and implements, etc. with some of their forest products.

5.1.1 *Makim: A Unit of Household Production*

The land being Matrilineally owned around a Makim, consanguinal families under a particular Riih¹⁰² and the extended consanguinal families of daughters with their husbands and children work on different parts of the land growing food grains, grazing animals, hunting and gathering wild animals, roots and plants. Each and every individual born in the matrilineage has equal access to any part of the land possessed. At times the whole matrilineal work force may be working together at a particular field with mutual arrangement according to the labour requirements. There is no specialisation in any production activities. Thus each extended consanguinal family under a Makim is capable of self-subsistence in the basic material aspects of living. Such a "primary group" of consanguinal family forms a unit of production and reproduction of a matrilineage.

¹⁰² The whole of Doya land registered under many households can be identified fewer than 10 to 20 Riih matrilineage groups. A Riih with larger descendant females would tend to have large areas of land in their possession.

5.1.2 Distribution Pattern

All the consanguinal units produce enough food grains to support themselves; a part of the total produce, according to their capacity is shared with their old parents in the Makim. They also contribute equal amount of food grains and other products at the time of ritual feastings and worship of ancestral and territorial deities. There is also mutual sharing of food grains among the extended families and also with brothers of consanguinal families. The close relation between mother's brothers and father's sisters come to the fore for all the rituals and material (food grain) needs and requirements in the matrilineal extended families and Makim.

Matrilineal males not only contribute their labour in their mother's and sister's work in the fields but also provide food grains at times of need from the produce of wife's matrilineal lands. This brings a close relation between the matrilineages. There is an element of reinforcing matrilineal (male) exchange with material exchange relation between the collateral kin of brothers and sisters. In this kind of production and distribution system of the Doyas, ideally they can either only be equally well off or equally poor, which is expressed in the kinship idiom: *Rang Yo Ka Not Sum Itpo* (we all have one feeling/sentiment).

5.1.3 Consumption Pattern

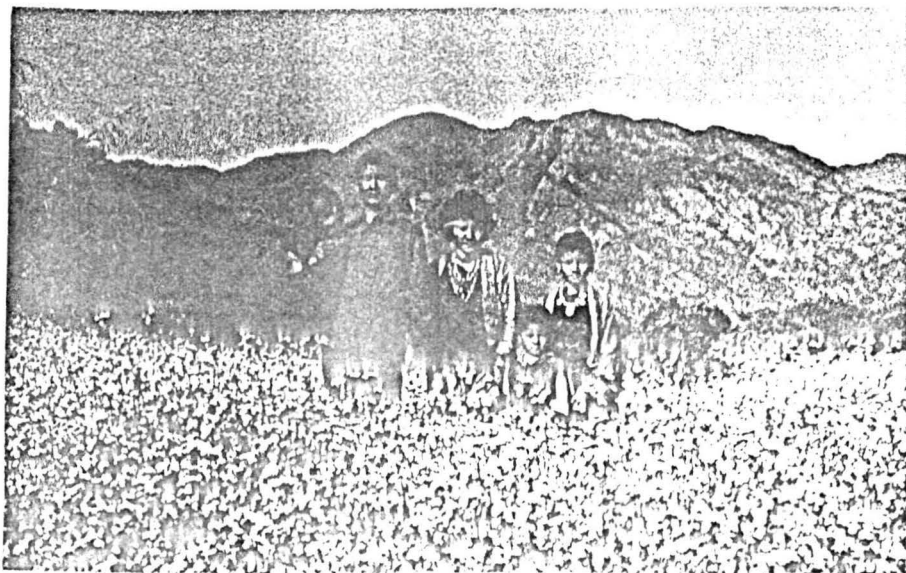
Consumption of food grain is done separately in each extended family. In the Makim, the parents, unmarried children or a married daughter along with husband and children eat together. Huge amount of food grain and meat is consumed in the annual or occasional deity worship and at the time of Death. All people in a particular village along with close kin residing at different villages come together for ritual and feasting. Considerable amount of grain is utilised (Jar to) in making Yu (local drink). Buckwheat (Kersey) is grounded into flour and made into Roti (flatbread). Their main food at the time of ritual feasting is Sorghum. Rice is supplementary. Maize is roasted and beaten flat and is taken with little cinder mixed with it.



46 Slash and burn for season's cropping



47 Maize field at Upper Lotukuchu



48 Buckwheat field

5.1.4 Exchange and use of Currency

The surplus food grains used to be either just wasted or eaten up by animals. Later, when they also began to keep their own cattle the dairy produces were used as means of exchange for procuring essential commodities like salt, cloth, iron implements and pots and pans from the border market place (Chamurchi near Samchi district gate). Use of currency, as medium of exchange was not appreciated till early twentieth century although British Indian silver coins were in currency in the Indian plains, then.

When the coins appeared in the weekly markets it seemed to have become another attractive and precious item to be possessed in exchange of what they produced. The coins they came to possess were very rarely used in procuring essential commodities from the exchange markets. Rather they became a valued precious property of females in a matrilineage. These coins dating back to 19th century became as precious beads for necklaces and chains¹⁰³. Such necklaces passed through the descendant females. They also became a precious property to be paid in the form of Nama in the rituals of female transmutation. Most of the elder ladies today possess these coins chains as a passive but long term saving. People have now begun to dispose these valuable possessions at times of hardship¹⁰⁴.

5.1.5 Agriculture and Technology

Doyas grow buckwheat, maize, millet, sorghum in their shifting fields and paddy in their terrace fields. Some of them grow varieties of seasonal vegetable such as beans and creeper, squash, pumpkin (*Jungka*), gourds (*Jopsey*) near their houses. They also collect and cultivate varieties of rhizomes roots and tubers for their food all round the seasonal cycle (Table-5.1).

¹⁰³ The coin chains used to be made by Nepali Goldsmiths. The coins are chained in a beautiful thread work by making holes at the borders of the coins. Sixty to seventy coins are linked in a beautifully woven thread work and the long chains of silver coins adorn ladies across their shoulders.

¹⁰⁴ At many instances, men and women used to come to the teachers at the school and others to sell off their silver coins at rates ranging between Rs. 10 and 100 per coin in the time of distress.

Most of them do not maintain a proper kitchen garden like the Nepalese in the neighbourhood do. The Nepalese grow mainly maize, millet, paddy and tapioca along with varieties of leafy vegetable, beans, pulses and creeper vegetable following a similar seasonal cycle.

Table-5.1: Seasons and Crop Cycle

Months	Local Seasons	Agri. works and Crops grown	Crop harvested	Other activities
DEC. JAN. FEB.	<i>GUNSUM</i>	Slashing and burning (in the upper hills) for Maize, Millet and Sorghum	Buckwheat	
MAR. APR. MAY	<i>SOH-KA</i>	Field preparation and paddy plantation.		
JUN JUL. AUG.	<i>JA-SUM</i>	Paddy	Cardamom, millet and Sorghum	
SEP. OCT. NOV.	<i>SHE-KA</i>	Slashing and burning in the lower hills for Buckwheat and Sorghum.	Maize, Paddy and Orange	<i>Loh</i> : The new year festivity. Marriage season.

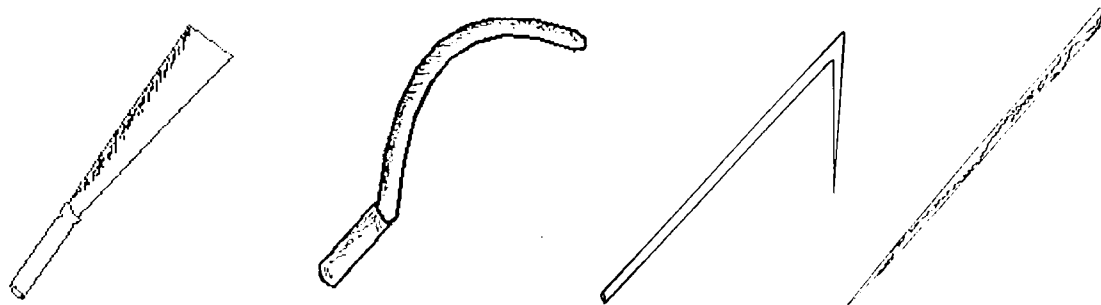
Besides the rudimentary agricultural activities for the main food grains they also catch animals like wild boars, wild goat, deer, wild buffalo, varieties of rodents, porcupines, monkeys, wild cats, birds and fowls, frogs, fish and varieties of insects. In addition they collect tubers, rhizomes, roots, leafy wild vegetables and Fruits to supplement their nutritional requirements.

It seemed that shifting cultivation and hunting and gathering activities were the mainstay of Doya economy and livelihood pattern in earlier times while cattle herding as an occupation was forced upon them. The sedentary way of life with settled form of agriculture is relatively a new development in the Doya ways of life.

5.1.6 Tools and Implements

Chopper (*Chabu*), Sickle (*Goish*), along with locally fabricated wooden Hoe and Pecker are some of the indispensable agricultural implements (Fig-16). Chopper and Sickle are procured from markets while the other local implements are made from hard logs and branches of tree. Hunting implements like Bows and arrows, and Snares are still in use. Few families have shot guns but not many can afford such expensive tools. Nevertheless, most of the other household articles and some agricultural implements are indigenously made and used still today.

Fig- 16: Some agricultural implements¹⁰⁵.



It is also said that Doyas knew the art of weaving their own traditional clothes. They still use a fine bamboo spindle (*Rim*) and a fine plant fiber (*Jin*) to do rough stitching on their torn clothing. These indigenous implements are also being fast replaced by the steel needles and mill threads.

5.2: Livelihood Situation

In a village census conducted in 1994 on size of Household, Land holding, Livestock, Food Crop Production, Annual Income and Period of Food Sufficiency from a sample size of 74 Registered Land holder households including a neighbouring *Rai* village called *Lapcheygoan* between *Lotukuchu* and *Sanglung* villages. The following results are drawn in simple mathematical analysis of the data (Annexure: 5.1 – 5.5).

¹⁰⁵ Starting from left Fig.-1 is a chopper locally known as *Patang*, Fig.-2 is a sickle known as *Goish*, Fig.-3 is a hoe used for loosening the soil before sowing seeds and Fig.-4 is pecker used for putting maize seeds by pecking on the soil.

5.2.1 Sharing of Resources

Many Rai families of the neighbouring Nepali villages have temporary land use agreements through the ritual friendship ties or otherwise with mutual consent for cultivation of food grain at many different locations in the Doyas land. Rais grow their food grain in under-utilised and difficult shifting fields of the Doyas and pay back in cash or in kind at the time of harvest in the ratio of 1:3. However, if the land owning Doyas also work together with the Rais, the ratio of sharing the product is 1:1. This system of land use is gaining popularity among the people as it reduces the hardship and labour problems. However, it is a matter of speculation as to the implications that be in the simple corporate land use system and society of the Doyas. They have Adhiya system of land use with many people including the Hapas who seasonally migrate into the region.

5.2.2 Land Holding Pattern

In an economic and statistical survey conducted during the field there were at an average about 15 households with 186 populations to 274 acres of land in each village (Table – 5.2). The population and land ratio in each Doya villages works little different from one another. Lotok has, for every household of 16 to 17 persons approximately to 12 to 13 acres of land at an average (man – land ratio being 0.75). Lotukuchu A&B together have at an average, 13 acres of land for every 13 members households (man – land ratio being 1:1). Sanglung has, for every 8 to 9 member household to 70 to 79 acres of land making a land-man ratio of 1:3.1, approximately and Satakha has 11 to 11.7 acres of land to every 16 to 17 members household making a land-man ration of 1:1.24, approximately. On the other hand, average land holding in Rai Nepali village (Lapcheygoan) was 8 acres of land for every 8 to 9 members household (land-man ratio being 1:1). The difference in the overall population-land ratio between Sanglung and Lapcheygoan (Rai village) and the physical proximity of the two (see Map-1.2) give room for sharing of land resources between the two communities.



49 A woman processing Cardamom



50 Father and his son packing orange in the orchard

Table-5.2: Land Holding Pattern

Sl.No.	Name of villages	No. of Households	Total household members	Total landholding (acres)
1	Lotok	8	132	102.90
			(16.50)	(12.863)
2 & 3	Lotukuchu(A & B)	34	445	443.20
			(13.08)	(13.04)
4	Sanglung	23	204	636.96
			(8.87)	(27.69)
5	Satakha	9	151	188.17
			(16.77)	(20.9)
	Grand Total	74	932	1371.06
	Average	(14.8)	(186.4)	(274.21)
	Lapchey goan	14	121	118.19
			(8.64)	(8.44)

Note: Figures in parenthesis show average of respective villages and of the total.

5.2.3 Local Production and Shortages

The total annual production of food grain in all the four Doya villages was 112.4 metric tons of cereals¹⁰⁶ and 28.85 tons of rhizomes, roots and tubers (Table-5.3). The neighbouring Rai villages produced a total of 11.24 metric tons of food grain and 1 quintal of roots and tubers (Annexure: 5.5). That means 1512 Kg of food grain and 340 kg of roots and tubers were available to each Doya household of 10 to 12 members at an average and in 14 Nepali households of 8 to 9 members 803 Kg of food grains and 7 Kg of roots and tubers along with other vegetable and pulses are available in a year.

This also means that in Doya household with 10 members had 151.2 Kg. of food grains and 32 Kg. of roots and tubers are available to an individual in a year and Rai family of 8 members only around 100 Kg. of food grain and less than a Kg of roots and tubers in a year for consumption.

¹⁰⁶ Please see Table-5.3: The sum total of buckwheat (2875 pathi || 11500 kg), Maize (6495 pathi || 25980 kg), paddy (6360 pathi || 25440 kg), Millet (5520 pathi || 22080 kg) and Sorghum (6835 pathi || 27340 kg) is taken as the total cereal production, which is approximately 112,340 kg or 112 metric tons.



51 Orange orchard at Lower Lotukuchu



52 Orange depot at Samehi

Table-5.3: Annual Food Production and Shortage Period

Name of villages	Buckwheat (Pathi [¶])	Maize (Pathi)	Paddy (Pathi)	Millet (Pathi)	Sorghum (Pathi)	Roots (Kg.)	Shortage Period
LOTOK	140	640	150	445	675	930	4
Average	(17.5)	(80.0)	(18.7)	(65.0)	(84.4)	(11.6)	
LOTUKUCHU (A&B)	695	3560	2060	2685	3680	23880	5
Average	(20.4)	(104.7)	(60.6)	(78.9)	(108.3)	(702.4)	
SANGLUNG	1420	1265	2830	760	2480	3030	5
Average	(61.7)	(55.0)	(125.2)	(33.1)	(107.8)	(131.7)	
SATAKHA	640	1030	1270	630	000	1010	5
Average	(71.1)	(114.4)	(141.1)	(70.0)	(000.0)	(112.2)	
GRAND TOTAL	2875	6495	6360	5520	6835	28850	5
AVERAGE	38.8	87.8	86.0	76.0	92.4	389.8	

¶ - Pathi is local unit of measurement. Pathi is a Nepali term. Doyas do not have this unit however, they have another smaller unit called *Pul* according to which 1 Pathi = 8 Pul, 1 Pul = 7 Chola(handful). Further, 20(Itkal) Pathi = 1 Muri(Doya term) \approx 80 kg = 2 Mounds

The situation is alarming but these figures indicate a declining crop production in the region (Table – 5.4) and also show the growing importance of raising cash crop that has become the main source of income for the people to supplement the shortage of food crops.

Table- 5.4: Productivity¹⁰⁷ at Different Locations

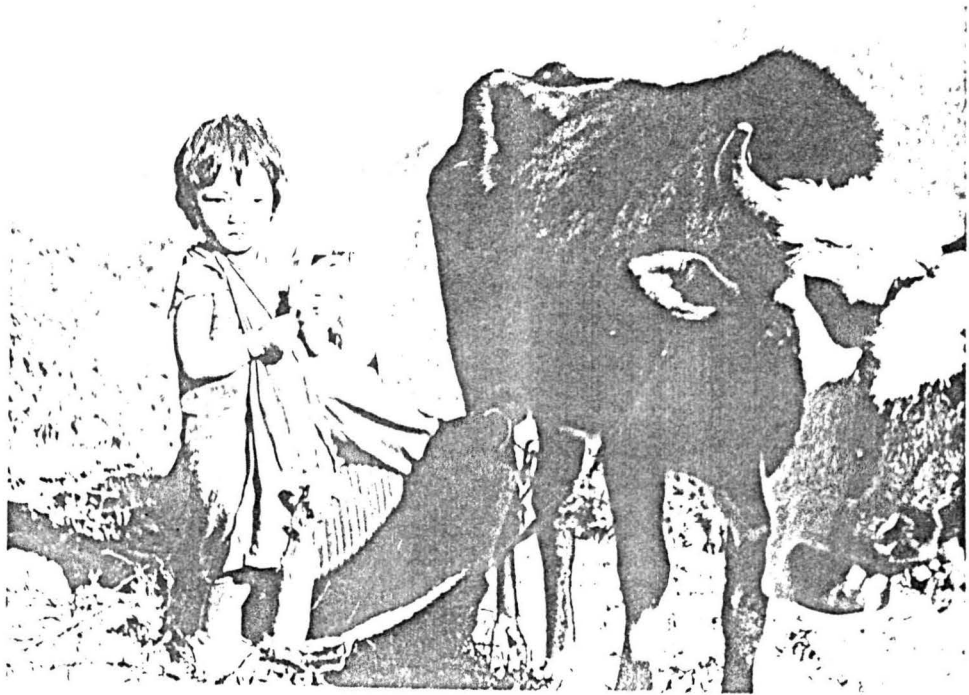
Crops	Lumbey	Lapchey - gaon	Lotok	Dam- bey	Seng- ten	Sata- kha	Sang- lung
Paddy	01:25	01:25	01:20	00:00	01:18	01:20	01:25
Maize	01:30	01:60	01:25	01:60	01:70	01:20	01:60
Millet	01:80	01:60	01:80	01:25	01:70	01:20	01:80
Sorghum	01:35	00:00	01:80	01:90	00:00	01:20	01:90
Buck- wheat	01:80	01:80	00:00	00:00	01:40	01:20	01:80
Wheat	00:00	00:00	00:00	00:00	00:00	10:01	01:10

5.2.4 Livestock

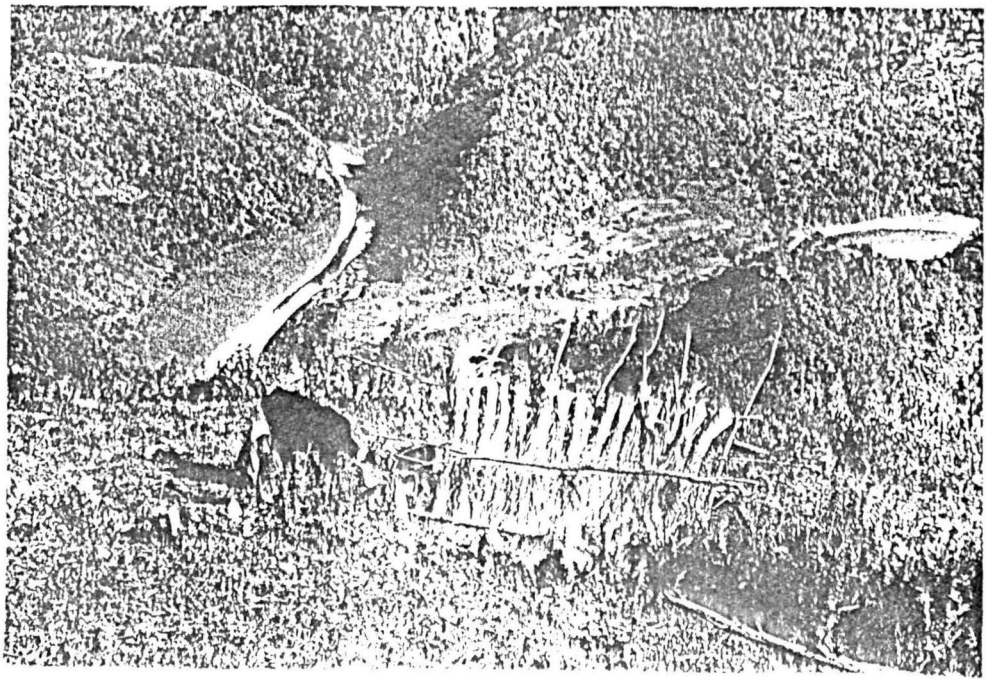
Livestock as usual is an essential part of life for the Doyas, also. Most of the livestock are kept for ritual purposes, common feasting and for milk products. They depended on the wild animals and birds for all their flesh requirements in earlier times. Now, they depend on domesticated livestock for meeting not only domestic meat requirements but also for earning some cash by selling meat locally. The food situation now in the village is that those who can afford to keep livestock can only have the meat and money while the wild life in the degraded forest is getting scarce day by day.

Doyas keep some cattle (*Pink*), goat (*Rha*), pig (*Pank*) and hens and cocks (*Kek*) in almost all the house. Keeping ponies and horses for transportation of goods is a recent development associated with the cash crop trading activities.

¹⁰⁷ This ratio indicates the quantity of food grain production to one *pathi* of seed sown at different



53 Mother and child looking after the cows



54 A La overlooking Moti/AmMochhu from Upper Lotukuchu

Table – 5.5: Livestock

Villages	Ox	Cow	Goat	Birds	Pig	Pony
Lotok	13 (2.7)	46 (5.7)	10 (1.6)	46 (5.6)	5 (0.2)	2 (0.3)
Lotukuchu (A&B)	53 (1.6)	116 (3.4)	35 (1.1)	168 (5.0)	11 (0.3)	2 (0.1)
Sanglung	26 (1.2)	61 (2.6)	4 (0.2)	86 (3.7)	8 (0.4)	7 (0.3)
Satakha	16 (1.8)	34 (3.8)	7 (0.8)	50 (5.6)	9 (2.0)	23 (2.6)
GRAND TOTAL	108 (27.0)	257 (64.3)	56 (14.0)	350 (87.5)	32 (8.0)	35 (8.7)

Data available from the five administrative residential units revealed that there were around a thousand livestock with an average of 27 Oxen, 65 Cows, 14 Goats and 88 birds, 8 Pigs and 8 Ponies in the four Doya villages (Table – 5.5). this makes an average of 14 Oxen, 35 Cows, 7 Goats, 47 birds, 4 Pigs and 5 Ponies to every 10 households compared to 10 Oxen, 23 Cows, 18 Goats, 35 birds, 15 Pigs and no pony to every 10 Doya households in Lapcheygoan (Rai village/Annexure: 5.5). Sanglung, Satakha and Lotukuchu villages have the maximum livestock. Satakha village alone has the maximum number of ponies. This difference with the rest of the Doya villages has an impact on the living standards and ways of life of the Satakha people from the rest of the Doya people altogether, there are 838 livestock in the whole of Doya villages and every two animals have little more than 3 acres of land for grazing.

5.2.5 Cash Crop and Annual Income

74 households in four Doya villages produce a total of 178 Mounds of Cardamom and 12,870 ponds of oranges valued approximately around (market rate, in 1993 Samchi) more than Rs. 1.26 Million, approximately (Table-5.3 and 5.6 Sources of

Family income). This gives an annual income of Rs. 17,000/- roughly to a household but the annual income data collected during the field works does not tally with the calculated figures.

Table- 5.6: Sources of Family Income

Sl. No.	Sources	Units	Rates
01.	Oranges	Pons (80 pcs.)	Nu/Rs. 60 to 70/pond.
02.	Cardamom	Mound (40 Kg.)	Nu/Rs. 2400/mound.
03.	Portage	4-5 pond/80 Kg.	Nu/Rs. 150/trip
04.	Pony carriage charge	6-8 pond/80 Kg.	Nu/Rs. 200/trip.
05.	Butter	Kg.	Nu/Rs. 70 to 80/ Kg.
06.	Cheese	Balls	Nu/Rs. 5/ball
07.	Hen & Cock	Whole	Nu/Rs. 70 to 80/pc.
08.	Beef	Kg.	Nu/Rs. 35/Kg.
09.	Pork	Kg.	Nu/Rs. 40 to 50/Kg.
10.	Mutton	Kg.	Nu/Rs. 60/Kg.

The field data based on house-to-house survey, on annual income, gives a figure of Rs. 5,32,000 for 74 households making an average of Rs. 7,190/-(appx.) annual income per household (Table-5.7). The difference in the two figures is a glaring indication of Doya people's indebtedness to others. The minimum annual income among the Doya household is Rs. 2000/- per annum and a maximum of Rs.25,000/- per annum in Lotukuchu village and in the neighbouring village the annual income range between minimum of Rs. 1000/- to maximum of Rs. 20,000/-(Table-5.7). The average income in the Lotok, Lotukuchu, Sanglung and Sataka villages are Rs.1100/-, Rs.7088/-, Rs.5609/-, and Rs.8222/-, respectively. Most of the lower income group lives in Sanglung village, Lotok village with just 8 households ranks the top in the average annual income (Rs. 11000/-) and Satakha village with 9 households ranks the second (Rs. 8222/-).

Table-5.7: Cash Crop and Annual Income

Sl No.	Village Names	No. of Household	Annual income (Rs./Nu.)	Cardamom (40Kg/Md)	Oranges (80pc/pon ¹⁰⁸)
1	Lotok	8 Average	88,000 (11,000)	21 (2.60)	1,850 (231.25)
2 &3	Lotukuchu A&B	34 Average	2,41,000 (7,088)	83 (2.44)	5,270 (155.00)
4	Sanglung	23 Average	1,29,000 (5,609)	48 (2.09)	4,060 (176.52)
5	Satakha	9 Average	74,000 (8,222)	27 (3.0)	1,690 (187.77)
	Total	74 Average	5,32,000 (1,06,200)	178 (35.8)	12,870 (2,574)

5.3: Impacts on the Doya Economy and Livelihood Pattern

Actually, the Doyas had only access to the land they authored and lived making their livelihood out of it. But legal ownership right as such did not exist until the middle of 20th century. By the turn of 20th when the country became a sovereign Kingdom under a single line of hereditary Kingship, the first hereditary King took up major political, administrative and revenue reforms in the country. Slavery was abolished. At a later stage, Wage Labour was introduced and Land Reformation and Revenue Act, 1956 came into force. Doyas began to lead a dignified and settled way of life. But the introduction of Land Revenue Act also began to put pressure to set a structural change in their traditional system of matrilineal corporate system of Land ownership and inheritance. Land authored by each household at many different places was registered in the name of eldest men in the matrilineage or in absence of the lineal man, the eldest resident husband of a household and very rarely in the name of the eldest female of a household (Annexure 5.1 to 5.5) giving rise to considerable importance to male heads in the traditional matrilineal households and the society at large. This was perhaps done quite ignorant of the traditional Cultural values of the Doyas to establish the commonly accepted male supremacy cultural values of the national cultural mainstream.

¹⁰⁸ One Pon = 80 pieces of orange.

A Land ceiling of 25 acres also restricted them from taking on fresh land within their territory. Land Registration Cards (*Thram*) were issued to each main household recording land specifications, usages and sizes of pieces of land they possessed at different places. Then they began to pay annual land revenue and property taxes to the Royal Government of Bhutan (Table-5.8).

Table-5.8: Land and Revenue Taxes¹⁰⁹

Sl. No.	Land and Property	Tax Rates (per annum)
01.	Houses	@ Nu (Rs.) 10/- per house.
02.	Livestock.	@ Nu (Rs.) 3/- per house.
03.	Shifting/ Jhum Field.	@ Nu (Rs.) 10/- per field.
04.	Cardamom field.	@ Nu (Rs.) 300 to 500/- per field.
05.	Orange field.	@ Nu (Rs.) 12/- per field.
	Total Range	@ Nu (Rs) 335 to 535 per annum

Matrilineal corporate households with land in excess of 25 Acres were distributed among the consanguinal elder males and formally registered in their names.

5.3.1 Impacts of the Drukpas

Folktales of the Doyas tell us that they evidently had their own form of self rule with a King or a Chief (*Pon*) in a stone built palace at *Denchukha*¹¹⁰ before the Drukpas incursion. Folktales reveal that Drukpa Lamas with magical powers came down, captivated, killed and devastated them and their palace. The remaining of the people was then enslaved. They had to take refuge in deep jungles and made their living in the wilderness and abundance of the forest resources. And whenever called for they in all their strength (men and women) used to be engaged in building fortresses and palaces, making bamboo baskets and carrying loads for the rulers who had seasonal trade between Chamurchi in Indian plains and Denchukha involving days of trekking in the hills and Jungle paths¹¹¹. The Drukpas used to come down along with their sepoy, fleets of ponies and horses.

¹⁰⁹ These rates of Revenue and Taxes are based of the field Survey conducted in 1993.

¹¹⁰ The author visited the ruins of the Doya palace in 1994, April.

¹¹¹ The rulers of Paro had their regular trade passing through Ha, Denchukha and Samchi to Indian plains. Commodities procured from Chamurchi in India used to reach Paro in 20 to 30

In the non-trading season Doyas used to be left alone with most of the ponies and horses for grazing in their territories. They were also made to look after hundreds of cattle for the supply of milk products and meat to the rulers¹¹².

2nd March '93: After a brief morning meal and a starter drink at Challamo's house, in Satakha Chedoji and I went down to Raibey where Chedoji's sister live in a *La* (hut). On my query about their past he narrated the following story as we were walking down. – In earlier times Doyas used to be keeping large flocks of cattle, practice Shifting cultivation widely in a large territory of land. We never used to tether the cattle. They used to graze freely in the Jungle. There was abundance of milk and its products. Oxen used to be much larger and stronger. We did not know how to yoke an ox. Oxen used to be kept for meat only. Paro Raja used to routinely come down and they were required to give free labour service for carrying goods. We used to carry huge loads on our own expenses for days together to reach a godown at Denchukha. From their on, Hapas used to carry the loads in relay to Paro. We were also made to look after large flocks of cattle for the *Ranis* (Queens). If any one of us was found reluctant or disobedient in complying with the orders we used to be physically abused and chased by large dogs. In return to our services to the Rajas we were given free hand to exploit resources in vast area of forest for our livelihood.

Doyas looked after the ponies and horses, and cattle in makeshift huts in different corners of their territory. They milked the cows; processed cheese and butter, slaughtered aged cattle and prepared meat to be lifted for Kings. All of these used to be collected by Sepoys (who used to periodically come down for the purpose) and nothing used to be left behind for the Doyas who toiled in hardship.

Doyas had no direct gain from all these works but in return they were allowed free access to the resources of the region to make their living. When they carried loads for the rulers for days together they had to carry their own ration and nothing was paid in return. It was Royal service to the rulers called *Gondo-wula*. At times they were also heavily engaged in opening up new trade routes to India and other important places in the country for which they had to keep away from their homes for months together.

This system of forced labour kept most of the able bodied away from their villages for days and months at times. It also widely dispersed the conjugal

days in a relay transportation involving many groups of people inhabiting the region. Doyas used to lift the loads till Denchukha and from there Hapas used to lift it to Paro in a relay.

¹¹² Elders aged between 80 and 100 years say that there used to be flocks of cattle belonging to different Ranis and Rajas that they used to look after to supply dairy products and meat whenever asked for.

families within the territory away from their main households and residential areas. They made their living wherever they moved with their simple traditional tools and techniques of cultivating food grains in shifting fields, hunting animals and gathering food to meet their nutritional requirements.

5.3.2 Living with the Rais

Nepalese who are mainly Rai occupying lower ranks in the Nepali caste hierarchy had begun to immigrate into the Doya territory in the earlier part of 19th century. Warrior castes; the Gurungs and Kshetris had already established themselves forming a powerful community involved in trade and commerce between India and Bhutan contributing to the economic development of the country.

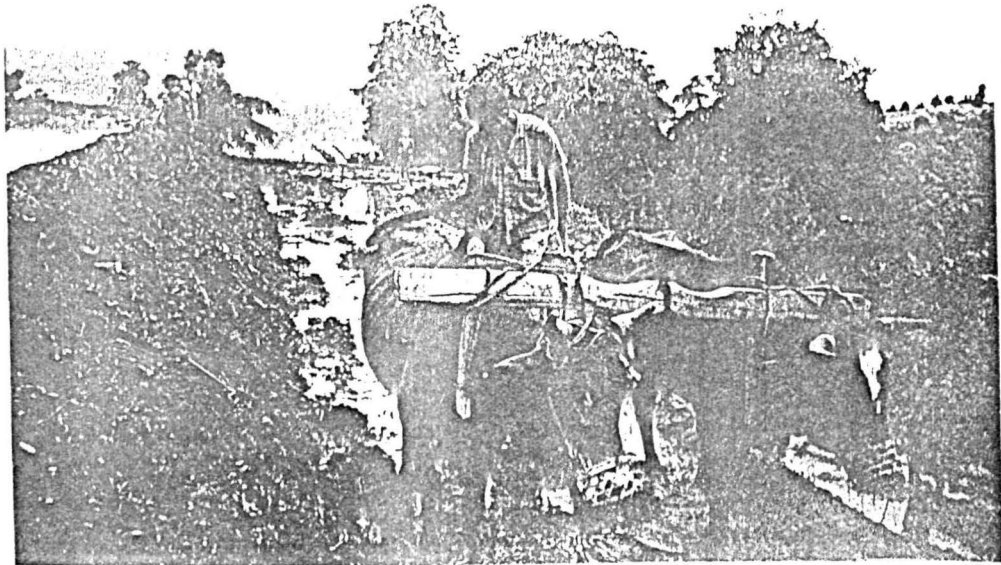
The Gurungs in particular, established their power centre at Samchi and nearly ruled the Economic and socio-political affairs of this part of Southern Bhutan with tacit approval of the then King of Bhutan. This is a different story but the presence of Nepalese¹¹³ in and around the region greatly influenced Doya ways of life.

Doyas were small in number living amidst abundant natural resources in the interior of the southern hills. The Rais slowly moved in, in search of green pastures and forest resources in the vicinity of the former. The Rais carried a superior socio-cultural technology in regard to agriculture and associated community labour organisation. They made friends with the kind Doyas and took possession of land in exchange of nominal cash or kind without any resistance even from the Royal Government. The kings of Bhutan then, seemed to require more labour force to exploit rich natural forest resources for the socio-economic development of the country and Doyas needed a reliable and friendly neighbour to live with. In the quest of better living Rais seems to have exploited the situation to their advantage. They established inseparable social friendships through

¹¹³ Nepalese who began to inhabit the Southern part of Bhutan in great numbers contributing their might towards the development of Bhutan came to be known as Lhotshampa (meaning the Southern dwellers) in Bhutanese parlance differentiating them from Ngalom (mainly the Drukpa, the Northern dwellers of Bhutan), the Sharcopa (Eastern dwellers) and the Lhop/Lhopu (Doya of the South Bhutan). They became part of Bhutanese Human Geography,



55 Paddy transplantation at Sanglung



56 Ploughing in the Terrace fields



57 Paddy fields in middle Lotukubu

rituals and mutual consent popularly called *Mit*¹¹⁴ and helped the Doya brethren in many ways in an intense socio-cultural intercourse between the two communities over the years. Rais brought in more advanced cultural traits, agricultural knowledge, techniques and trading practices including growing of cash crops. Some of the cultural traits among the Doyas that are apparently of Nepali origins are as follows:

- Knowledge and techniques of making plough
- Turning terrace fields out of hill slopes and Jhuming fields (Plate-56)
- Vegetable Gardening
- Nepali language as means of oral and written medium of communication
- Building houses with stone and mud (Plate-19)
- Preparation of variety of drinks through crude distillation processes
- Social festivities and new form of games and entertainment
- Nepali Folksongs, ladies dress, costume and ornamentations (Plate-25)
- Adoption of Nepali names
- Raising of Cash crops (Plate-49, 50 & 51)
- Trading activities and practices
- Standard of measurements
- Production and distribution practices
- New forms of labour organisation
- Personal and Household ornamentation and decoration
- Some social beliefs and practices (Plate-36).

In the earlier days when both the communities began to exploit the natural environment shoulder to shoulder through shifting agricultural practices with simple technologies, it mounted pressure on the local resource base. Vast tracts and areas of hill began to look worn out exposing naked earth. Nepali community then began to become a competitor in the same resource base using better technology.

To meet the increasing food grain demands of growing population Nepalese began to change over to the settled form of agricultural practices with their

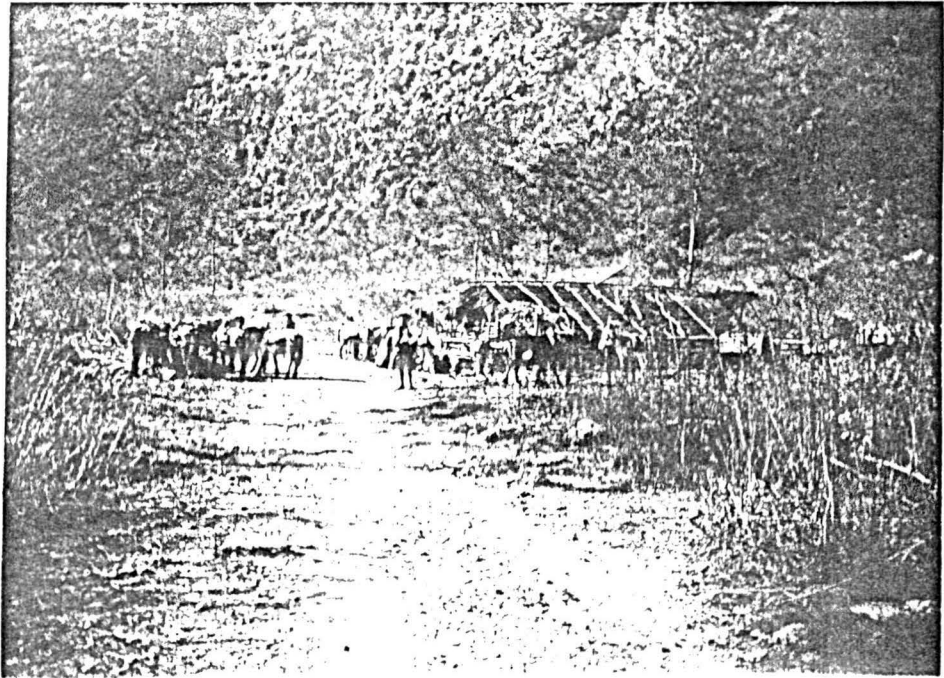
¹¹⁴ *Mit* relation is affected between any two individuals of usually same age and sex group after having mutually and consciously agreed. It involves a ceremonial oath taking between the two partners in presence of elders and family members of both the parties on an auspicious day. The two persons sit together in front of a lamp and take oath of mutual faithfulness, co-operation and also to maintain and observe certain moral obligations and social relations towards each others kith and kin in the name of God and mutual welfare. It entails adopting each other's family socially in the capacity of each other's social role and status. This relation contracted once passes down the families through several generations. The two persons address each other, as *Mitsaheb*- it is taboo to take each other's personal names. They address all other family members like one's own mother, father, brother sister, son and daughter, and grand children by prefixing the *Mit* to the kin terms.

advanced technologies. They made terrace fields, raised Orange orchards in the lower hills and Cardamom fields along the upper steams and gorges, while Doyas, given to their old habits and traditional practices, took time to adapt to the emerging environmental constraints until the Jhum cycle dropped down to 4/5 years and even less duration with lowering productivity and limiting territorial areas (Plate-10).

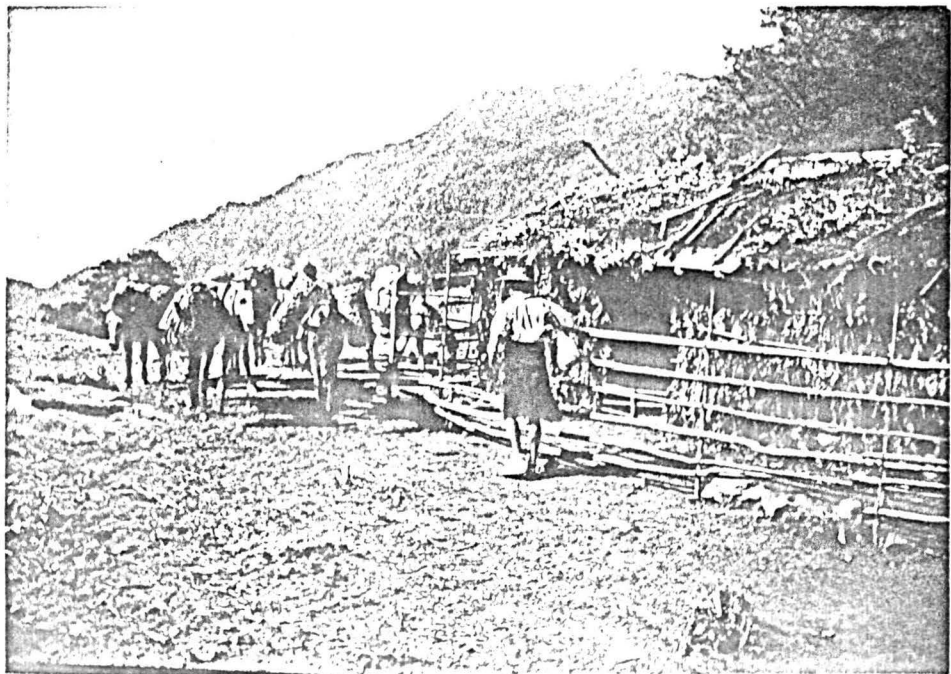
Slowly and gradually, Doyas began to take up the new technologies and Cash crops cultivation and related trading activities. They began to have terrace fields wherever possible, fashioned ploughs and used oxen to till the land resulting to far reaching implications to their traditional ways of life, social organisation and general attitudes towards the material aspects of life. Processes of monetisation, sense of private land ownership, differences in living standards among themselves and emergence of new social categories pertaining to inter-marriages in the other wise homogenous society mark the changes occurring among the Doyas due to the close social interaction with the Rai communities in their vicinity.

5.3.3 Impacts of the migrating Hapas

Hapas, seasonally come down towards Samchi passing through the Doya region. They fix up their make shift huts all along the hill tracts between Dorokha and Samchi. As usual in their nomadic ways of life, they come down with fleets of ponies and horses and cattle for grazing and earning out of their livestock. People of one whole village in *Ha* Damthang District under a *Mandal* (block level leader) temporarily settle here for about 7 to 8 months between October-November and April-May every year trekking down for about 15 days from their settlement areas in *Ha*. They stay in 30 to 40 *Nulaks* set-up at certain points all along the path to Samchi in the hills (Plate-58). They possess some pasture land also in the region from their forefather's time and own some orange orchards and cardamom fields. These are left under the care of some Doyas or Rais on certain terms of contract like *Adhiya* from which they are always known to make the better deal out the produce for themselves. Similarly, they also leave behind most of their cattle at times with either Doya families or Nepalese to look after until their next seasonal return. Their *Nulaks* on the paths also serve as Inns for



58 Hapas *Nulak* (Tent) on the path to Samchi H.Q.



59 Hapas fleet of ponies all set to go with loads of orange

travelers providing food, drinks and a shelter. Their ponies, altogether around 150 to 200 strong fleet are pressed into active transportation of oranges and cardamom. On the return trips from the market they bring bags of food grains and sell at the doors of Doyas and Nepalese. They transport maximum loads of oranges and cardamom from the whole of Dorokha Sub-division (Plate-59). Their benefits from these business earnings are more than those others can do in the whole region.

Relations between the Doya and Hapa in general are of suspicious nature where the Hapas are known for their thrift and cunning nature and the Doya for their nature of gullibility and simplicity. In the past Hapa were known to have forcibly taken away Doya children to take care of their cattle. For long time since the incidents took place Hapas movements the Doya residential areas remained restricted.

When Hapas come down they bring dried needles of Blue Pines (*Dupa*: used as incense smoking) from the north. This is an essential ritual article, which is used at the time of ritual performance and worship. Blue pines are not grown in southern Bhutan and hence it is a scarce commodity for many in the south. Hapas drop in each and every Nepali and Doya households give them some handful of *Dupa* as a gift to every household and in return they get some food grains as is usually expected.

Thus, they try to make best of their 6 to 7 months stay in the south through collection and earnings and go back with enough money and food grains to spend the rest of the year in peace and comfort in their villages in the high and cold north. Some Hapas have become very prosperous dealing in orange and cardamom and have permanent export business establishments at Samchi owning huge buildings and assets.

5.3.4 Impacts of the Market Economy

Growing cash crops, transportation and trading activities associated with the use of currency have brought in considerable prosperity among the Doyas on one

hand. On the other hand, it has also cast adverse impacts on the social structure and organisation of the Doyas society. Some Doyas have made good fortunes in these activities and many others have brought improvement in their living standards by their earnings. Monetisation processes have considerably affected simple ways of life. On the contrary, the concept of rich and poor is emerging among the people in an otherwise equalitarian society. Male importance and dominance is being emphasized in the changing livelihood pattern, to mention few.

Every year during the months from November till late March, many of them can be seen moving up and down the hills in groups of men, women and children with baskets of oranges and cardamom on their backs to Samchi market. An adult person can make an average of ten thousand in several trips of orange loads on the back in a season. Others make in term of thousands and lakhs of rupees by selling the oranges for those who have orchards.

Samchi has now developed into a proper market with regular shops and weekly markets on Sundays. There are around 30 to 40 permanent shops, stalls and small bars built by the Royal Government selling all sorts of commodities including varieties of bottled drinks, luxury items, ornaments, cloth, iron implements, pots and pans, modern kitchen ware, electronic gadgets, food grain and a variety of vegetable, meat and eatables. Indian businessmen from the erstwhile Charmurchi market have moved into this growing township at Samchi running shops and canteens. There is also a Cinema hall in the market place.

Out of curiosity, most of the Doya spend out their hard earnings in seeing cinema and purchasing ornaments, shoes, eatables and luxury items in the markets. Considerable amount of income go out in procuring millet for keeping stock local brew for local brew. Many of them spend heavily on drinks including women. Responsible persons buy enough food grain to meet the shortages, but only very few persons have some money for the rest of the year.

Most of the Doyas have close relations with one or other businessman in the market from whom they take food grains on credit promising certain amount of

oranges or cardamom in the next season. Only very few of them mainly from Satakha and Lutukuchu villages have emerged rich dealing in the orange and cardamom trades directly. (See Appendix-II: Persons and personalities.) Some of them have stonewalled and corrugated Tin roofed – double – Storehouses in the villages. Some people in Satakha have bought ponies worth thousands of rupees to improve on their earnings. Doyas in general could have benefited much more from trading activities had it not been partly for their own ignorance and simplicity partly because the migrating people take a major share of the local business.

5.3.5 Changing Pattern of Livelihood

Under the environmental constraints and dwindling resource base and increasing population pressure of both the communities, Doyas had to adopt new means and ways of production techniques and practices for raising resources and earning. Certain cultural traits and values associated with the new techniques and practices were also absorbed in the Doya way of life, from the neighbouring Rai.

When they had to turn their barren sloping fields into terrace fields and grow food grain it required more labour and intensive labour organisation and use of different techniques and implements. Techniques and practices such as use of *Kodal* (Spade), *Halu'* (Plough), making of water channels *Kulo* from near by streams, raising nursery fields for seedling (*Ra-lhing*), transplanting in the terrace fields, Manuring and weeding, raising Cash crops, fencing and related trade practices imparted considerably on their traditional organisation and way of life, making for a change.

The use of plough brought in a cultural value associated with gender. Women are prohibited to plough in Nepali society. The plough brought in an idea of gender specific form of labour division in the agricultural activities among the Doya. Paddy cultivation requires well-organized skilled labour in a society. Doyas had simple technology for shifting cultivation with their labour organised in small relatively autonomous consanguinal groups. When they had to adapt to the permanent form of cultivation they had to adopt the labour contract/exchange system of labour organization and also the associated techniques.

Terrace field owners needed to have some resources already to organise extra labour. These imperatives brought about labour dependence to other groups, among themselves and to the Rai neighbours. Since paddy fields are continuously used year after year with limited scope for further expansion or shifting, which ever consanguinal family group of matrilineage created and maintained it over a period of time, a sense of attachment or private ownership also developed quite contrary to the corporateness and free access to all the land under a matrilineage. (See Challamo and Setah in Chapter-II). Oranges and cardamom brought in considerable amount of cash by direct transportation and selling at the Samchi market. More and more Doya began to raise cardamom fields and in the gorges along the streamlines. They began to take direct part in trading activities bringing them in closer interaction with business communities from the Indian plains. Since this is an activity only men do, their importance in the matrilineal Doya society grew. More and more men began to keep away from their family fields leaving behind women and children to take care of children and production activities. Doyas became more and more market oriented for all sorts of commodities. More of them including women and children are getting increasingly exposed to the market every orange season.

SUMMARY

The Doyas have lived in closely knit kin groups in the wilderness of sub-Himalayan tropical forest with simple technology of shifting cultivation and hunting and gathering practices to supplement their nutritional and cultural needs. They are not pastoral people although circumstances under the rule of the Ngalom forced upon them to be engaged in the occupation in earlier times. Their labour were also cheaply exploited by enslaving them to menial works of portage, domestic services and free labour for state construction works. This seems to have brought about some disruptions in the normal ways of life in Doya society.

They had sufficient economy. The system of kinship organization is related with their mode of production. Each consanguinal unit of a matrilineage forms a production unit and they in turn form connubium of man and material exchanges and sharing amongst them. These production units around a female line moved from place to place on their shifting fields. They had simple technology of production for their living in the vast territory abundant in natural forest resources since time immemorial. However, with the changing time, heavy migration of people from the south and north began to put pressure on the local resources and soon their simple technology became almost outdated.

The people who came nearest to them and influenced the most were the Rais who migrated in the interior of southern hills of Bhutan in the nineteenth and twentieth centuries. The Rais considered low caste people in Nepali society also have distinctive cultural tradition of ethnic nature as different from that of Hindu ways of life.

The Doyas adopted new technologies of settled agricultural traditions, some other cultural traits and language to adapt to the changing livelihood situation as the productivity fell.

Their livelihood pattern is not only closely linked to their traditional kinship and relations but it is also greatly influenced by the surrounding socio-cultural and political environment. Drukpas on one hand exploited their simple ways of life and status. The Hapas seasonally migrate into their life and exploit their labour and economic opportunities. Nepalese on the other hand affected them greatly by

settling into their proximity and co-sharing the same resource base in an intense socio-cultural intercourse causing a considerable change in their ways of life and attitudes. Their direct participation in the trading and business of cash crops has enhanced the influence of Money in their day-to-day life breaking up the traditional system of corporation in the Matrilocal residential organization of labour, production and self subsistence.

With the coming of modern education among the younger generations and emergence of male importance in the changing socio-economic scenario Doyas are all set for a change with increasing exposure to outside world and modern technological development. Efforts are on to open a motorable road passing through the Doya villages to improve communication and exploit resource potentials of the region. Moreover, a serious effort is also being made to bring up the Doyas to the national cultural mainstream from the Royal Government of Bhutan. Doyas are at a crossroad. They are at a tri-junction where they are exposed to cultural influences of the Nepalese, the Drukpas and the market oriented modern culture.

Environmentally, the increasing pressure of population had brought down the natural vegetation at an alarming situation with the continuation of shifting cultivation but on the other hand, increasing expansion of cardamom fields all along the streamlines with tall trees deliberately allowed to grow for a cool shady shelter to the cash crops below and the thick and spread orange orchards all along the hotter foothills are ensuring water and soil conservation to certain extent. This pattern of local resource regeneration seems to ensue a new ecological set-up in the region for future economic securities.

ANNEXURE-5.1: STATISTICAL DATA OF LOTOK

5.1.1 Household – wise Statistical data

Sl. No.	Head of Household	Family Members	Land holding (in Acreage)	Annual Income Nu./Rs.	Annual Food grain Sufficiency Period
1-0	Chitchema (F)	06	9.00	20,000	12 Months.
2-0	Ajijem (F)	11	10.00	8,000	7 Months.
3-0	Chungsey	10	16.00	10,000	12 Months.
4-0	Aedu Tshering	05	11.60	10,000	7 Months.
5-0	Gyen Tshering	42	27.25	20,000	8 Months.
6-0	Ujey Tshering	35	11.76	10,000	6 Months.
7-0	Sebab	10	8.48	5,000	6 Months.
8-0	Lebda	13	9.10	5,000	7 Months.
	Total	132	102.90	88,000	65 Months
	Average	16.5	12.8625	11,000	8 Months

5.1.2 Household- wise production data

Household Nos.	CEREAL CROPS						Cash crops	
	Buckwheat (Pathi)	Maize (Pathi)	Paddy (Pathi)	Millet (Pathi)	Sorghum (Pathi)	Roots (Kg)	Cardamom (Mound)	Orange (Ponds)
01-01	20	80	0	25	20	90	7	500
02-02	60	60	90	50	70	150	1	100
03-03	0	100	0	10	25	120	0	300
04-04	0	50	30	20	80	60	1	200
05-05	0	120	30	140	140	30	5	600
06-06	60	150	0	80	240	200	0	100
07-07	0	20	0	40	40	100	3	50
08-08	0	60	0	80	60	180	4	0
Total	140	640	150	445	675	930	21	1850
Average	17.50	80	18.75	65	84.375	11.625	2.33	205.56

5.1.3 Livestock

Household Nos.	Ox	Cow	Goat	Hens & Cocks	Pig	Horse	Total
01-01	02	7	--	3	--	--	12
02-02	3	3	2	4	--	1	13
03-03	4	15	--	6	--	--	25
04-04	2	1	1	6	--	--	10
05-05	4	10	2	10	2	--	28
06-06	3	6	3	10	2	1	25
07-07	1	1	--	3	1	--	6
08-08	--	3	2	4	--	--	9
Total	19	46	10	46	5	2	158
Average	2.11	5.75	1.25	5.75	-	-	19.75

ANNEXURE-5.2: STATISTICAL DATA OF LOTUKUCHU

5.2.1 Household-wise statistical data of Lotukuchu A & B

SL. Nos.	Head of Household	Family members	Land holding (acres)	Annual Income (Rs)	Food grain sufficiency (months)
09-01.	Pento	15	6.50	15,000	5
10-02.	Yangku	10	19.00	15,000	6
11-03.	Namjey	18	13.25	15,000	5
12-04.	Kinja	16	7.61	2,000	8
13-05.	Tompa	9	40.33	3,000	7
14-06.	Toksey	29	9.17	8,000	5
15-07.	Pudum Tshering	20	11.55	5,000	6
16-08.	Chencho	17	13.90	6,000	6
17-09.	Muki	3	11.50	3,000	9
18-10	Gomchey	15	8.20	5,000	6
19-11	Tashi Tajey	3	5.50	2,000	9
20-12	Setah	31	25.00	12,000	9
21-13	Meley	25	21.85	25,000	7
22-14	Duri	34	23.45	5,000	7
23-15	dodnam	3	13..50	5,000	5
24-16	Chitenji	18	7.09	5,000	5
25-17	Pema	8	11.40	3,000	7
26-18	Jimi	2	3.40	5,000	6
27-19	Tanjidok	2	8.10	5,000	6
28-20	Jimi dorji	13	6.31	10,000	8
29-21	Tanjey	24	5.38	4,000	6
30-22	Chiptenji	27	13.21	3,000	9
31-23	Kuchutenji	12	23.90	10,000	8
32-24	Diri	13	11.55	7,000	8
33-25	Thering pau	13	28.45	3,000	7
34-26	dankachen	5	10.13	5,000	6
35-27	damey	25	19.40	7,000	6
36-28	Im tashi	18	17.52	5,000	6
37-29	Kejon	20	6.90	2,000	6
38-30	Daupalak	6	12.08	6,000	6
39-31	Rinchey	50	15.00	15,000	8
40-32	Nado	20	9.79	6,000	6
41-33	Chenjo	18	6.88	6,000	6
42-34	Pemo (F)	3	7.90	8,000	5
Total		545	454.7	241,000	225
	Average	16.03	13.37	7,088.24	6.62

5.2.2 Household-wise production data

Household Nos.	Buckwheat (pathi)	Maize (pathi)	Paddy (pathi)	Millet (pathi)	Sorghum (pathi)	Roots (Kg)	Cardamom (Mound)	Orange (pond)
09-01	0	150	80	80	80	150	0	30
10-02	0	100	0	40	100	100	5	400
11-03	80	180	160	160	160	180	0	300
12-04	200	80	150	40	40	100	0	50
13-05	20	60	40	30	40	130	3	60
14-06	0	80	100	160	40	150	3	500
15-07	0	30	0	100	200	200	0	100
16-08	0	100	100	40	100	150	0	300
17-09	0	60	60	0	40	50	6	150
18-10	0	60	0	40	0	160	0	400
19-11	105	100	50	50	80	60	1	0
20-12	0	150	150	60	60	100	2	500
21-13	0	200	0	160	80	150	0	0
22-14	0	40	80	240	160	170	2	50
23-15	0	80	100	50	240	100	0	200
24-16	0	60	0	80	80	100	11	100
25-17	0	50	60	80	80	80	1	0
26-18	0	60	0	50	80	100	1	100
27-19	0	150	0	5	520	80	1	0
28-20	0	100	130	80	240	30	2	500
29-21	0	40	0	200	80	100	2	0
30-22	80	100	50	50	80	180	2	0
31-23	0	150	0	60	200	100	1	300
32-24	0	160	0	80	120	100	3	100
33-25	60	100	100	80	50	130	3	0
34-26	100	80	200	60	60	100	3	100
35-27	50	90	0	60	60	120	2	30
36-28	0	100	100	60	160	160	1	0
37-29	0	80	150	30	80	20060	2	0
38-30	0	350	0	100	400	150	1	300
39-31	0	300	0	240	100	150	20	500
40-32	0	120	150	60	100	100	3	100
41-33	0	0	50	60	0	80	0	100
42-34	0	0	0	0	0	10	2	0
Total	695	3560	2060	2685	3910	23880	83	5270
Avg.	20.44	104.71	60.59	78.97	111.71	702.35	2.44	155

5.2.3 Livestock

Households	Ox	Cow	Goat	Hens & Cocks	Pig	Horse	Total
09-01	2	4	0	6	0	0	12
10-02-	2	5	0	6	0	0	13
11-03	2	6	3	10	1	0	22
12-04	2	2	1	0	1	0	6
13-05	0	0	0	6	0	0	6
14-06	2	7	2	6	0	0	17
15-07	2	3	3	4	0	0	12
16-08	1	3	0	4	0	0	8
17-09	2	2	0	0	0	0	4
18-10	0	0	3	0	0	0	3
19-11	2	7	0	4	0	0	13
20-12	1	4	3	10	1	0	19
21-13	0	0	1	3	0	0	4
22-14	4	8	0	9	1	2	24
23-15	1	3	0	4	0	0	8
24-16	1	1	0	3	0	0	5
25-17	0	2	0	3	0	0	5
26-18	2	2	0	4	0	0	8
27-19	0	0	2	4	1	0	7
28-20	2	2	1	4	1	0	10
29-21	2	10	0	3	0	0	15
30-22	4	5	2	6	1	0	18
31-23	2	7	0	4	0	0	13
32-24	0	3	2	5	0	0	10
33-25	0	3	0	4	0	0	7
34-26	2	2	3	4	1	0	12
35-27	2	0	2	5	1	0	10
36-28	2	1	0	6	0	0	9
37-29	3	3	0	4	0	0	10
38-30	2	1	0	6	0	0	9
39-31	2	10	0	15	1	0	28
40-32	2	5	1	5	0	0	13
41-33	2	3	3	6	1	0	15
42-34	0	2	3	5	0	0	10
Total	53	116	35	168	11	2	385
Average	1.56	3.41	1.03	4.94	0.32	0.06	11.32

ANNEXURE-5.3: STATISTICAL DATA OF SANGLUNG

5.3.1 Household- wise statistical data

Sl. No.	Head of Household	Family Members	Land Holding (Acreage)	Annual Income (Rs)	Foodgrain Sufficiency (Month)
44-01	Dugjon	8	19.00	5,000	6
45-02	Dugjey	5	33.44	5,000	6
46-03	Matob	5	13.72	6,000	5
47-04	chimidoji	4	18.60	3,000	5
48-05	Punah	7	25.40	2,000	7
49-06	Sakezang	4	12.40	10,000	6
50-07	Hidoji	3	29.46	4,000	6
51-08	Pento	3	23.48	5,000	6
52-09	Tashi penjo	11	15.75	4,000	2
53-10	Chentob	1	22.39	2,000	6
54-11	Pedo	39	47.72	5,000	7
55-12	Tshering aedu	9	45.80	7,000	6
56-13	Sarshopkota	22	2.49	6,000	7
57-14	Dankachen	11	17.62	7,000	4
58-15	Imbo	13	25.99	4,000	6
59-16	Nam Tshering	14	29.80	6,000	6
60-17	Gampu	9	20.59	6,000	6
61-18	Saridoji	4	22.79	6,000	9
62-19	Yesheydoji	1	22.41	9,000	7
63-20	Passa	11	23.34	7,000	7
64-21	Kuchu	7	28.45	7,000	7
65-22	Kangkop	2	41.08	8,000	8
66-23	Dungchap	11	89.54	6,000	6
	Total	2167	631.26	130,000	141
	Average	94.22	27.45	5,652.17	6.13

5.3.2 Household-wise production data

Household Nos.	Buckwheat (pathi)	Paddy (pathi)	Maize (pathi)	Millet (pathi)	Sorghum (pathi)	Roots (Kg)	Cardamom (Mound)	Orange (pond)
43-01	160	0	40	40	90	180	3	150
44-02	0	0	120	80	150	120	0	250
45-03	0	0	70	0	50	90	0	30
46-04	80	60	60	0	360	180	0	0
47-05	0	100	120	40	40	120	2	500
48-06	0	0	40	0	90	60	3	50
49-07	200	0	40	40	180	70	0	300
50-08	240	0	180	40	90	200	2	50
51-09	80	0	90	0	130	30	0	100
52-10	0	0	360	120	270	250	4	200
53-11	0	130	180	80	90	210	3	60
54-12	0	160	180	0	90	230	1	50
55-13	0	250	60	40	0	60	4	200
56-14	0	0	40	0	140	200	4	20
57-15	0	150	120	40	90	250	4	500
58-16	0	125	60	40	50	90	6	500
59-17	0	130	120	80	90	100	1	50
60-18	100	0	120	40	50	60	1	100
61-19	0	160	300	0	90	10	7	50
62-20	240	0	180	0	80	120	0	0
63-21	0	0	100	40	80	120	3	0
64-22	160	0	120	0	90	80	0	400
65-23	160	0	180	40	90	200	0	500
Total	1420	1265	2880	760	2480	3030	48	4060
Avg.	61.74	55	125.22	33.04	107.83	131.74	2.09	176.52

5.3.3 Livestock

Households	Ox	Cow	Goat	Hens& Cocks	Pig	Horse	Total
43-01	0	0	0	6	0	0	6
44-02	0	0	0	4	0	0	4
45-03	0	0	0	3	0	0	3
46-04	2	1	0	3	0	0	6
47-05	2	6	0	3	0	0	11
48-06	2	0	0	3	0	0	5
49-07	0	10	0	4	0	4	18
50-08	4	0	0	4	1	1	10
51-09	2	1	0	3	0	0	6
52-10	0	0	0	3	0	0	3
53-11	0	5	0	3	1	0	9
54-12	2	2	0	6	0	1	11
55-13	3	7	0	4	0	1	15
56-14	0	4	0	3	2	0	9
57-15	0	4	2	4	0	0	10
58-16	2	5	0	3	0	1	11
59-17	1	3	0	3	0	0	7
60-18	1	0	0	3	0	0	4
61-19	0	5	2	4	0	0	11
62-20	1	5	0	4	2	0	12
63-21	2	0	0	4	0	0	6
64-22	0	3	0	5	1	0	9
65-23	2	0	0	4	0	0	6
Total	26	61	4	86	7	8	192
Average	1.13	2.65	0.17	3.74	0.3	0.35	8.35

ANNEXURE-5.4: STATISTICAL DATA OF SATAKHA

5.4.1 Household-wise statistical data

SL.No.	Head of Household	Family Members	Land Holding (Acreage)	Annual Income (Rs)	Foodgrain Sufficiency (Month)
66-01	Daw Tshering	6	16.45	2,000	5
67-02	Himtenji	6	13.25	3,000	6
68-03	Nando	27	28.77	7,000	8
69-04	Pudum Tshering	13	0	6,000	6
70-05	Pa Tshering	10	9.20	6,000	6
71-06	Namajey doji	14	34.10	8,000	8
72-07	Jep Tshering	7	29.60	5,000	7
73-08	Senam doji	45	61.05	25,000	7
74-09	Kasadau	23	12.20	12,000	8
	Total	151	188.17	74,000	61
	Average	16.78	17.69	8,222.22	6.78

5.4.2 Household-wise production data

Household Nos.	Buckwheat (Pathi)	Paddy (pathi)	Maize (pathi)	Millet (pathi)	Sorghum (pathi)	Roots (Kg)	Cardamom (mound)	Orange (pond)
66-01	0	80	120	60	0	80	0	100
67-02	80	160	100	0	0	180	1	0
68-03	80	140	180	30	0	100	15	50
69-04	0	100	120	160	0	140	1	0
70-05	80	120	0	80	0	150	1	20
71-06	200	150	140	50	0	160	1	350
72-07	60	60	60	50	0	60	1	20
73-08	100	200	350	150	0	60	6	800
74-09	40	20	200	50	0	80	1	350
Total	640	1030	1270	630	0	1010	27	1690
Avg.	71.11	114.44	141.11	70	0.0	112.22	3	187.78

5.4.3 Livestock

Households	Ox	Cow	Goat	Hens & cocks	Pig	Horse	Total
66-01	2	0	0	3	0	6	11
67-02	2	0	0	4	0	2	8
68-03	0	3	0	6	1	0	10
69-04	0	1	1	5	1	0	8
70-05	2	1	0	4	1	2	10
71-06	0	7	0	4	1	4	16
72-07	2	0	0	20	1	1	24
73-08	6	20	0	3	3	6	38
74-09	2	2	6	1	1	2	14
Total	16	34	7	50	9	23	139
Average	1.78	3.78	0.78	5.56	1	2.56	15.44

ANNEXURE-5.5: STATISTICAL DATA OF LAPCHEYGOAN (Rai village).

5.5.1 Lapcheygoan (Rai - Nepali) Village

SL.No.	Head of Household	Family Members	Land Holding (Acreage)	Annual Income	Foodgrain Sufficiency
75 -01	Misraj	11	8.32	7,000	8
76-02	Tikadhan	7	39.00	8,000	5
77-03	Dhan Bahadur	8	5.39	15,000	7
78-04	Purnadoj	16	13.02	6,000	6
79-05	Bartalal	10	10.18	6,000	5
80-06	Suk Bahadur	8	3.05	3,000	5
81-07	Judabir	7	7.55	2,000	12
82-08	Ratnadoj	4	1.40	2,000	8
83-09	Amrit	1	7.54	3,000	3
84-10	Roopdoj	6	1.65	2,000	3
85-11	Dhan Bahadur	8	8.55	1,000	6
86-12	Prithidoj	9	4.30	2,000	5
87-13	Jangadoj	18	2.49	20,000	4
88-14	Manbir	8	5.75	5,000	7
	Total	121	118.19	82,000	84
	Average	8.64	8.44	5,857.14	6

5.5.2 Household-wise production data

Household Nos.	Buckwheat (Pathi)	Paddy (pathi)	Maize (pathi)	Millet (pathi)	Sorghum (pathi)	Roots (Kg)	Cardamom (mound)	Orange (pond)
75-01	0	150	120	120	0	0	2	70
76-02	0	0	60	50	0	0	3	200
77-03	120	200	40	0	0	60	0	1000
78-04	80	0	70	50	0	0	0	0
79-05	0	0	70	50	0	0	0	0
80-06	0	0	0	0	0	0	0	0
81-07	100	50	90	160	10	0	0	50
82-08	0	0	40	0	0	0	0	20
83-09	0	0	0	0	0	0	0	0
84-10	0	0	80	0	0	0	0	100
85-11	20	0	240	40	10	0	0	50
86-12	100	0	240	100	40	0	1	50
87-13	200	50	120	0	40	0	2	150
88-14	0	0	0	0	0	0	0	0
Total	620	450	1170	570	100	60	8	1690
Avg.	44.29	32.14	83.57	40.71	7.14	4.29	0.57	120.71

5.5.3 Livestock

Household Nos.	Ox	Cow	Goat	Hens& Cocks	Pig	Horse	Total
75-01	2	1	2	5	2	0	12
76-02	2	1	0	3	1	0	7
77-03	2	3	3	4	1	0	13
78-04	2	2	0	3	1	0	8
79-05	1	2	2	4	0	0	9
80-06	2	2	1	3	1	0	9
81-07	0	6	1	3	3	0	13
82-08	3	0	2	3	1	0	9
83-09	0	6	0	6	1	0	13
84-10	0	1	6	0	5	0	12
85-11	0	2	0	3	1	0	6
86-12	0	2	1	4	1	0	8
87-13	0	4	1	3	2	0	10
88-14	0	0	6	5	1	0	12
Total	14		32	49	21	0	141
Average	1	2.29	1.79	3.5	1.5	0.0	10.07