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Peasant Rationality in Decision Making

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1. Introduction

Peasants, a social group, are always part of a larger economic system (Wolf: 1966). Peasant populations occupy the margins of the modern world economy, with one foot on the market and the other in subsistence. (Bock 1969, Redfield 1957) They are neither fully integrated into that economy nor wholly insulated from its pressures. They are rarely prosperous, often precarious, and contain among them some of the poorest people in the world (Elli: 1988, 1993, Shanin 1971, Raper 1968, Redfield 1957). A market where peasants participate in opportunities on the one hand, and pressure the other for themselves. So, the relationship between peasants and the preservation of a non-market basis for survival. The peasant unit of production is both a family and an enterprise; it simultaneously engages in both consumption and production. This dual economic character of the peasant household preoccupies some logic or rationality which helps them in decision-making for further production, consumption, exchanges, etc. (Tivy 1994, Wallace 1984, Schendel 1981, Misra & Dung 1994)

In Bangladesh, two-thirds of rural income comes from agricultural and non-agro projects which are generally centered towards agro-based crops (BBS 1994). The households take non-agro occupation as supplementary to agriculture. Bangladesh possesses a different agro-climatic and social structure. Poverty in Bangladesh is closely linked with the growth of inequality in command over natural resources (Hussain 1988, Khan 1982, Jansen 1993). Many contemporary landless workers were formerly tenants or small farmers. There is a very unfavorable average land endowment (only 0.3 acres of cultivable land per rural person). Bangladesh with a total land of 144000 sq. km (approximately) had 100.6 million population in 1985, i.e., 1062 people per sq. km of cultivable land which is the highest level of population density in the world. The rate of population growth is 2.3 (per thousand). If this will continue, in 2000 the total population will be 150-155 million. In that time Bangladesh will be overloaded by people and people only. In 2021, the total population exceeded 165 million who share the same amount of land even after thirty-five years.

In the early 1990s, Bangladesh was a poor and underdeveloped country. It depended on foreign aid for its every development project and activities. The situation has changed very recently (in the early 2020s) when the country claimed its economic upward mobility from an underdeveloped to a least developed country with a per capita income of more than 2500 US Dollars. This is not only the actual feature of Bangladesh. Though it is a small country. There is a basic difference in its urban and rural areas, even there are regional variations exist as well. The urban areas are the consumer of the major facilities

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of the state and the rural areas are equally exploited by the policymakers, administrators, and such people who think and show themselves as very important to the state (and for the state also). Basically, Bangladesh is an agriculture-based country. Its development depends upon its progress and the growth of agriculture. The principal asset is the land and major people live upon it. Unfortunately, the rate of cultivation is 150 (one and a half crops) and the rate of productivity is as lower as 17 mounds or its equivalent per acre. This happens due to the asymmetric relationship between the development of land and the development of technology. The landowners are not interested to invest in land though they get an amount of surplus from the land. On the other hand, farmers, who are directly related to the land, have no capital to invest in developing land (Ahmed 1982:22-3).

The rural villages of Bangladesh are the basic area or unit of production especially of food production. The people of this country are habited in rice as their staple food. Thus, most of the rural people are engaged in agriculture. They produce more than four main varieties of rice named *Aus*, *Aman*, *Boro*, and IRRI in different seasons throughout the year. *Aus* and *Aman* are local and low-yield varieties and *boro* and IRRI are the High Yield Varieties. The HYV seed use for *Aman* is a recent phenomenon. For this reason, the *Aman* season becomes an important season. Besides, they produce dal, oil grains, vegetables, and several food grains. The people who are engaged in such production are called farmers, cultivators, or peasants. During their engagement in the field, they think about themselves, their problems, and familial consumption. They fulfill the basic consumption need of the people of the whole society. They supply their produced crops, grain, vegetables, oil, and other necessities for direct consumption beside further production initiatives. This paper attempts to find out the rationality and ideas of peasants regarding their work, intention, product rationality, marketing, cultivating patterns, seasonal priorities, product quantity and quality, selection of the crops, use of fertilizer, pesticides, fungicides, insecticides, and any other usable technological products and machineries.

The peasant operates within a free enterprise economy (Alam 1984, Arefeen 1986, Aren & Burden 1977, Bertocci 1970, Clayton 1989). Household decision-making affects its income. Social customs and morals took a larger role in rural life. They also have a significant impact on production and consumption, weddings, funerals, feasts, the system of bride price payments, and exchange labor. Agricultural policies should accord with development strategies and should have effective implementation. This can be achieved through a proper understanding of the determinants of peasant behavior and decision-making process regarding the allocation of family resources. The need for increasing production and lifting upward the living standards of peasants as both producer and consumer. A deeper understanding of the worldview and rationalities behind decision-making is very crucial. From the poverty alleviation viewpoint, there is a need to understand peasant mobility toward the intensification of agriculture. Income redistribution is, therefore, unnecessary, undesirable, and unbelievable without consideration of peasants' rationality. It is highly desirable for policymakers to have some knowledge of farmers' behavior and their responses to economic and non-economic variables (Allen 1995, Meillassoux 1991, Hussain 1993). The need for increasing food production, improving distribution, and uplifting the living standards of the farmers as both consumers and producers are equally important as agricultural development, poverty

alleviation, and overcoming the low standard of nutrition and living (Leftwich & Sharp 1982, Lewis 1991, Rahman 1986, 1993, Simmons 1993). For policymakers, it is necessary to gather knowledge about how can the individual farmer organize the factors of production land, labor, and capital for his firm, and base on the particular environment and continue his production.

2. Objectives and Methodological Consideration

In this paper, peasant rationality in decision making production-oriented activities has been identified. The major issues were: i) to identify how the peasants select and prepare their land, ii) to identify the factors which influence peasants to choose a particular crop and technology, iii) to identify the patterns of cultivation, crop plantation, protection from uncertainties and risks.

The study of this paper has been conducted through the anthropological field research method. A village named Hazipur was selected for the study. It is a village of the Hazipur union of the Dhamrai thana of Dhaka district. This village has been selected considering the features: i) about two and a half thousand people live in this village. The village is small in area which is helpful for the field research; ii) people of various professions, such as businessmen. service holders, farmers, and fishermen live in this village; iii) multifocal activities such as economic, political, and social activities have also existed in the infrastructure of this area; and iv) as the village stands on the bank of a river, there are adequate facilities in agriculture, fishing, trade, and commerce. There is also a possibility of presenting other economic activities and social affairs. Fieldwork was conducted several times from January to April 1995. This village was revisited in July 2022.

Household was the unit of study. Household is used based on the works of husband and wife (relationship of marriage) and parents and children (related through blood ties). Thus, household means: i) all members of a household live in a house and under a roof, ii) under unique earning and expenditure, iii) cooking from the one hearth and arrangement of food, iv) undivided cultivation and control over the land of the family, v) presence of parents and blood-related members (It may not be in some case such as a family formed by husband wife only), vi) relatives, related by marriage bond (Marriage relative may be absent such as household with brothers and sisters only or father and children or household with mother and children only), vii) known as a sangsar (ghor), viii) to be cooperative with each other's in challenges, crises, happiness, joy and sorrow, and difficulties of the members, ix) to acquire/accept the above matters by any formal or ritual relation (Hussain 1993). So, it is rational to select households as the unit of study due to the subject matter. A total of 50 households that were engaged in agriculture have been selected for collecting data.

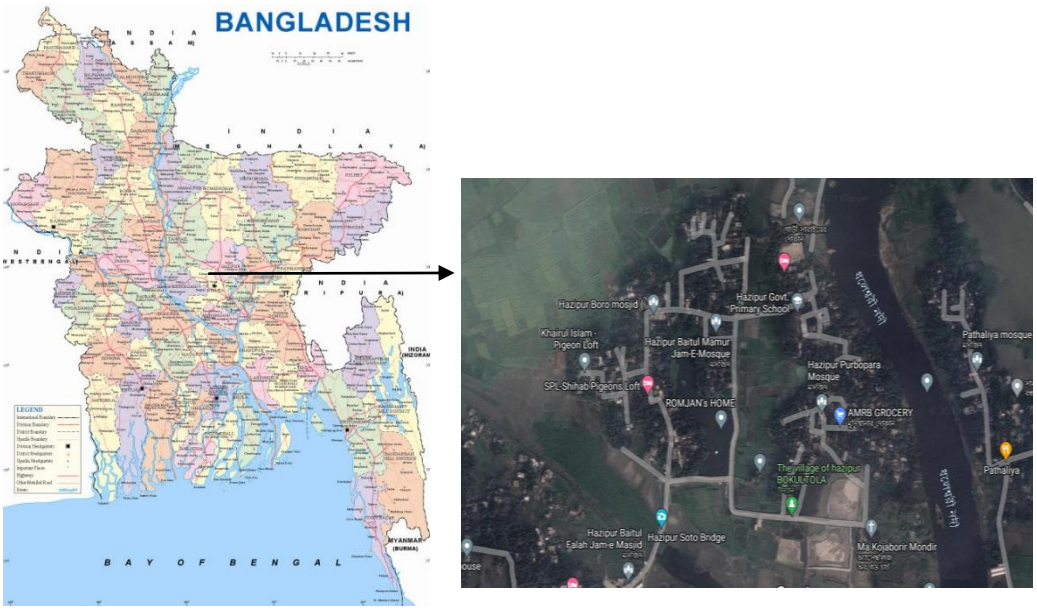
Regarding the possibility of getting data, the respondents were categorized into two groups. Out of 292 households of this village, 50 have been selected as primary sources of data. The heads of the households were interviewed. The secondary sources of data were the other household heads, their family members, and different groups of people at different times. Vital help was taken from the teachers and employees of Hazipur primary school and various documents of the union parishad office, educational, statistical, and agricultural development office, etc. A household survey of the whole village according to the questionnaire includes all of the relevant issues of peasant rationality and general

information. Survey activities were followed by interviews and discussion. Open-ended and close-ended interviews and discussions with selected 50 peasant household heads have been completed. Observation method has taken for new data, rationalize the collected data, to understand the acceptability and dependency of collected data. Few Cases have been studied intensively to assuring and practical perception of their responses.

3. Hazipur: The Study Area

The village Hazipur is under Dhamrai thana of Dhaka district. It is located 1.5 kilometer east from Dhamrai bazaar. The river Bangsi (a branch of Dholeshari River) flows beside the village. From Dhaka, one can go to the village by bus and then by boat. The Nayarhat bus stand is used as a hub for commuting to Hazipur. From the Nayarhat bus stand, there are some shallow boats for going to the village. It takes only 1-2 taka as boat Fair (in 1995). Every 15 minutes a passenger boat goes to the village. From Dhamrai it is 30-40 minutes walking distance. New commuting has been established. Now (in 2022), one can go to there by motorbike or auto-bike by expending 50-100 taka.

Two paras - the Hindu para and the Muslim para are there in the village. Hindu para is on the east side and Muslim para is on the west side. A bridge connected the two paras. Both east and west para is highland. The other areas are basically low land. From May to September this area goes under water and the height of the water level differs on the basis of ground level. Between the two para there is water level differs from 5 to 10 feet. Two types of land are there in the surrounding areas: i) comparatively high, cultivatable land which is covered with water from 2 to 5 feet, and ii) the lowland - which is covered with water from 7 to 15 feet. This lowland is always fallow land.



Map 1: Hazipur Village (Source: Google Map, 2023)

There are different occupational groups in in the village. Fishermen, carpenters, businessmen, service holders, potters, and farmers. They bear only two religions - Muslim and Hindu. The major houses are made by mud. Some houses are of brick and those are the houses of the rich. There are different political groups in the village. The Muslim para is dominated by pro-BNP and Jatiya party and the Hindu para is inactive in politics. There are 292 families in the village. Among them only 88 families (30%) belong to Hindu religious culture and the rest are Muslim. In 292 families/households, there more than 2412 people were living (in April 1995). The average number of household members is approximately 8. But the demographic feature of Muslims is higher than that of Hindus. The total population of 88 Hindu families is near about 500 and the average population rate is below 6 per household. On the other hand, the average household member of Muslims is more than 9. There is a primary school in this village. A significant number of people can write their names and able to read something such as a poster, booklet, letter, etc. Most of the inhabitants had not completed their primary education. There are only 8 persons are there in this village who completed their graduation, 9 completed Higher Secondary Certificate and more than 20 completed Secondary School Certificate education. 92 person from 11 households completed their primary education but dropped out before completing high school. A greater number of 850 person (17 % of the population) went to the primary schools but they did not ended up with graduation. Excluding the children of aged 0-6 years (490), a significant number of population (943, 39%) were identified as illiterate. They were unable to read any alphabet at least.

Out of 292, only 52 families were engaged his agricultural productions and activities. But these 52 families are not completely agricultural crop producers. Many of them are engaged in livestock raising, fishing, and wage labor in agriculture and some families just give lease and mortgage their land and they do not cultivate. In the village, 29 families engaged in fishing, 42 engaged in pottery, 16 in service, 7 as carpenters, 94 families engaged in business, and the rest are boatmen and daily workers, etc. Out of 50 studied households, 4 had 2.5-5.0 acres of land which is considered as middle peasant, 14 peasants had 0.5-2.5 acres of land. Another 26 households are the landless category - I with less than 0.5 acre of cultivable land, 3 households are in category- II who have 0.5 acre of homestead and cultivable land and finally, 03 households had no land (category III).In terms of earnings, there are only 15 families who earn less than 1000 taka per month and on the other hand, there are 08 families who earn more than 10000 taka per month. Between 1000 to 3000 taka earnings, there are 153 families and 3000 to 5000 taka by 86 families. 5000 - 10000 taka by 30 families. There are three types of land - the high land, the low land and the medium high land. The local land experts and Union land office claimed that 45% of the land is high land, 40% medium high land and the rest 15% is low land. The high land is used for homestead. The medium high land is used for cultivation and the low land is fallowing land. The low land comes under water from April to September of every year. For such ecological condition, they can produce only rye and rice.

4. Results and Findings

In Hazipur, the peasants operate their farms individually. Household decisions affect the farm in every stage of cultivation. Only two crops are produced in the village: rice (paddy) and rye. The physical environment of this village allows peasants to produce these crops only. The villagers produce *boro* a variety of paddy. From December to

January, they start their cultivation and from April – May, they harvest their paddy. The rye is planted in September-October and harvested in December-January. Based on cultivation and physical environment, seasons can be divided into two parts: i) Crop Season: From Sept to May, peasants produce *boro* (rice) and rye, and ii) Fallowing season: From June to September, crop production is stopped for water. In the crop season, peasants cultivate and produce rice and rye. The cultivation takes place in two phases: management of the physical environment, and production of the favorite crops. These phases are not separate from each other. The peasants do these at the same time. The preparation of land for production is a step of management of the physical environment. They start direct crop production. From land preparation to harvesting, they take different steps for different situations or problems of the environment such as irrigation, weeding, water shortage, water reservation, etc. These two phases include many activities related to selection and the preparation of land, selection of crops, plantation, crop protection, and harvesting. For taking decisions on the abovementioned tasks, peasants have some rationality. Those rationalities depend upon their socioeconomic status and cultural perspectives. The rationality in different steps has been discussed here.

4.1 Selection and Preparation of Paddy and Rye Field

The peasants select their land according to their capacities and needs. Land preparation is considered the preparation of soil. It is the main process to prepare the soil for cultivation. Soil is created smoothly to facilitate seed germination, emergency seedlings, and smooth growth of roots, well-developed plants, and destroy the organism as pests, weeds, and pathogens. In the case of selecting land, the peasants have to consider the domain of the land or land ownership and cultivate the land. They get land in two main ways: owning land through inherited or through buying and land tenure or taking leases or mortgages from other land owners. In the village, the total cultivating land area is about 300 acres (approximately). In farming in 1995, 20 peasants (40%) use their own land, 08 peasants (16%) use other's land, 15 peasants (30%) use their own and other's land and 09 peasants (18%) give land to other and/or lives on livestock raising and fishing. In this feature 83% of the land has been used for rice production, 12% of the land has been used for rye production, and 5% of the land has been used for other vegetables. The peasants used 30% of the land for their homesteads, 55% of the land has been used as cultivated land, and the rest 15% of the land is fallow land.

After taking the land (own or tenure, lease, etc.) peasants prepare the land for cultivation. This stage may be called the physical preparation of the land for cultivation or Tillage. Tillage is the initial process of cultivation. It makes the soil smooth. The surface of the ground becomes muddy and moist. The deepness of the smooth soil depends upon the type of soil, site, and need of the peasants. For rice cultivation, the peasants cultivate intensively and make the soil smooth as they can. It is very essential for paddy plants. Here peasants make the soil weed free. For this purpose, they use a plough. There are two types of plough in the village: traditional plough - drawn by oxen, and machinery plough i.e., tractor or tiller. Due to the unevenness of land structure, they cannot use tractors for every part of the land. They use tractors only for plain land or where it is easy to move the tractor. They use a motorized tiller. It is easier to carry than a tractor. That is why the peasants felt easier in a tiller than a tractor. Most of the land is low land and in the back

side of the village, thus, it is difficult to take a tiller or tractor to the field. 30% of peasants use machineries for ploughing and another 30% of peasants do not use machineries for their own problems such as lack of financial capabilities, skill limitations, etc. 20% of peasants are not interested in using machineries for their beliefs regarding the fertility of the land and 20% peasants do not need the machinery because their small amount of land could be cultivated by the cattle. Peasants who use a tractor and tiller consider that the tractor or tiller is suitable technology for depth plough and replaced traditional livestock.

The village has a great density of population and it has a small amount of cultivatable land. Similarly, there is a small scope for livestock raising. The main livestock are buffalo, cows, and goats. Buffaloes and cows are used for ploughing. Because there is small scope for livestock raising. The peasants are unable to use domestic animals for ploughing. There is only one family that has 7 buffaloes and total 27 families have cows. Out of those, 15 families have only one aged cow with 1 or 2 calves which they domesticate for milking. Other 12 families have 4-8 cows including calves. The peasants domesticate livestock depending upon the scope of grazing available and the necessity to get milk and money from that livestock. Their rationality for limited livestock raising are unavailable land for grazing, lack of accommodation, etc.

The peasants are involved in more than one occupation which provides financial benefit and support. Besides cultivation, 64% of peasants are involved in small retail and medium business, 20% of peasants are involved in fishing and boat riding, 10% peasants are involved in livestock raining and waging, and 4% of peasants are involved in many other occupations such as day labourer, a rickshaw puller, etc. In the village, 25 families, who are engaged in cultivation but they have no domestic animals. The peasants who do not use tiller or tractor, plough by buffaloes or bullocks and follow the traditional system. They have more rationality for using bullocks and not using modern machineries. The peasants consider the prospect and constraints of this system simultaneously.

The modern machineries used commercially. There is only one tiller and there is no tractor. Moreover, the only tiller owner bought it by sharing it with one of his relatives in the nearest village. He contacts his shareholder and both of them use that tiller commercially. The peasants pay for hiring the tiller based on the land area for the plough. During the ploughing season, they use the tiller as a plough and at the harvesting time, they use that as a rice mill. Peasants get it as their needs. This technology is available and they get it easily. Peasants do not have to buy a tractor or tiller and they can hire for a day or some days. They do not need to supply labourers for driving those machineries. The tiller or tractor owner supplies the necessary manpower for driving the machine. For every machine, there is a mechanic-cum-driver. He manages everything. Peasants inform the location of the plot, types of work expected time. The driver accommodates time through a combination of the nearest plots. The driver appears at the plot around the given time. He starts plough one after another plot serially in the presence of the peasants. The peasants pay the tiller charge on the spot, usually.

The tiller charge is considered reasonable. Peasants have to pay as they take service from the tiller and it is counted per *bigha* (33 decimals) or its portion. Generally, the cost is 40 takas per *bigha* (33 decimals) for a single plough. So, the tiller charge becomes 120 takas per acre. For the production of rice four times ploughing is needed i.e., total cost of ploughing is 480 taka per acre. Peasants do not bear the fuel cost or any other additional

cost for drivers. It takes only 4 to 5 hours per acre for ploughing. Only they have to contact the tiller owner or driver according.

The peasants had complain about the tiller driver sometimes. In many cases, the driver exploits the peasants. He ploughs the surface of the ground slightly and thus, the land is not prepared properly. For proper preparation, peasants have to use their bullocks. For this reason, peasants lost their confidence in the tiller and tractor. They think to use their inherited traditional tools i.e., the domestic animals. When the marginal or poor peasants call on a tiller, they do not get priority to the tiller owner. The owners give importance to the rich peasants. After completing land preparation/plough of the rich peasants, the poor get the scope to plough with the tiller. For this reason, in major times tiller becomes unusable to the small peasants. The peasants have a belief that the use of machineries in the field may decrease the fertility of the land. On the other hand, the use of domestic animals is good for peasanthood, for luck. That is why, the domestic animals are considered assets of the peasant firm and families. However, the peasants can use easily their own domestic animals. When they start domesticating the animal then they hope to use those to plough their land. Without ploughing they can use them for milk and meat. In Hazipur, 15 families domesticate cows for milk. They use it for ploughing rarely.

The peasant prepares their land for plantation. At first, they tillage the surface of the ground. This is called *bhanga* i.e., broken. This is the first time ploughing. For rice production plough a land for four times. After three or four days of *bhanga*, the peasant ploughs those lands for the second time. This is called *dosha* or the second time broke then they follow the land for 3 to 5 days. In the meantime, they take up weeds and grasses from the land. The next phase is called *thela* or third time ploughing. In this phase, the soil has been broken into the smallest pieces. Organic fertilizer is used in this phase if needed. The last phase is called *sazano* i.e., prepared for plantation. It is the combined process of the above three and the final stage of land preparation. If there creates any problem at the previous stage, there is a chance to overcome it at this stage. In the cultivation system, the peasants used a substantial amount of manual labour. Approximately, 20% of peasants supplied labour from their own families, 74% of peasants supply labour from own families and hiring and only 6% of peasants manage labour through hiring only.

4.2 Selection of the Crop:

The peasants produce two main crops - rice and rye. The soil condition, climate and land permit them to produce only those two crops. Among the peasants, 64% of peasants produce rice and rye both. In addition to that 34% of peasants produce only rice and the other 2% of peasants produce rye only. From April - May to August - September the land goes under water. The peasants become unable to produce any crop at that time. The major portion of cultivatable land is low land. The high land is used as the homestead of the villagers and the low land is used for cultivation. When the land becomes dry in September - October, then peasants plant rye. Out of the total cultivatable land of 300 acres, the rye was planted on 45 acres.

The peasants consider many issues for rye cultivation. Firstly; rye has a high price value among other cereal produces. At harvesting time, its price become 500 - 700 taka per mound and sometimes 700 - 800 taka. The peasants stock rye to sell later i.e., at the time of market scarcity. Then peasants get 1000-1200 taka per mound and sometimes 1300 -

1500 taka per mound. There are no other substitute crops that they can get the same return from that. Secondly; rye is easy to market from this area. The nearest market Dhamrai bazar is famous for rye and other oil-producing crops. There are some factories near Dhamrai bazar where the owners or businessmen buy rye from the local market as raw materials. The peasants who produce rye, it is an opportunity for them to market their produces. Thirdly; the cost of production of rye is lower than other substitute crops. It needs only two ploughing and one time weeding. Normally the peasants are reluctant for its easier growing. The harvest is easy to picking up. Total production cost for one acre is about 600 - 1000 taka only. Finally; the production of rye is satisfactory. From one *bigha* of land, the peasants get 6 to 8 mounds of rye i.e., 18 to 24 mounds per acre. Thus, the rye becomes highly profitable. It takes taka 4000 to 6500 per acre, which is very difficult to get from other crops at the same time.

The area covers with water except for homestead lands since the beginning of May. The comparative high, cultivatable land and the land between the two paras are suitable for rice cultivation. But *aus* or *aman* paddy is not produced there because in the *aman* season (from May to September) land goes under water and in the *aus* season, it becomes too dry which is not suitable for *aus* paddy. Moreover, the peasants produce rye at that time. So, the peasants are bound or wished to produce only one variety of paddy and that is *boro*.

The peasants produce only *boro* paddy. The other varieties such as *Aus*. *Aman* is not cultivated here. *Boro* is a type of High Yield Variety (HYV) of paddy. Its rate of production is higher than other varieties. *Boro* produces 20 to 30 mounds per *bigha* i.e.; 60 - 90 mounds per acre. The peasants consider their consumption needs. Initially, they try to fulfil the familial need, then sell additional portion. It is possible to cultivate paddy with traditional technology and somewhere using machineries.

4.3 Plantation:

The peasants complete two stages for planting rice and a single stage for rye. Before preparation of land, they put the seeds on a seed bed. According to the peasant experiences and responses, 2 to 4% of seeds fail to germinate. Regarding the use of HYV for crop production, 82% (41 peasants) use HYV seeds though only 6% (3 peasants) do not HYV seeds and another 12 % (6 peasants do not know which types of seeds they use. At first, they start working on seed germination. It is taken 4 to 5 days for germinating seeds. Peasants put the seeds under water for the first two days, and later, they put them in the air. There grow new plant roots from the seeds after 2 or 3 days. All of the seeds do not germinate in this way. Sometimes, peasants isolate the germinated seeds from others and sometimes they plant the ungerminated seeds with germinated seeds. In terms of using seed bed, it was found that 15 peasants (29%) use their own seed bed, 18 peasants (35%) use fallow land as seed bed, and 10 peasants (19%) use landowners or rich peasants seed bed.

The peasants take the germinated seeds to the field and through them on the seed beds for growing new plants from the seed root. After 5 to 7 days, new plants with two leaves are shown on the seed bed. For *boro*, it takes more than 3 weeks to become a plant mature for planting in the field. After 3 to 4 weeks i.e., after the seeds turn into plants, the peasants pick up those from the seed bed and plant them in the field. After the fourth time plough of the land preparation, the planting begins.

4.4 Crop Protection:

At the time of plant growing up, there creates some problems and obstacles. Some of those are natural and some of those are species made. Among the problems the following factors, which have a definite impact on the crops, are important: i) Natural disasters: flood and water flow, heavy rain and water flow, wind, drought etc., ii) Problems and lack of soil fertility, and iii) Attack of pest and insects. The flood and water flow create problems for the peasant each season. This causing damage to their crops, especially the rye. Rice cultivation needs water. Heavy rain and water lodging affect their plantation and harvesting paddy. 16 peasants (32%) peasants fell into this problematic category for flood and water flow. 11 peasants (21%) faced the problem of heavy rain and water flow. The information shows that 4 peasants (7.5%) faced the problem of early rain. Few peasants were frustrated over pests and insects. 21 peasants (40%) faced pest and insect attacks. After harvesting, many peasants are facing the problem of preserving their crops. 02 peasants (4%) faced storage problems but 19 peasants (37%) faced several problems such as a lack of water supply in the plantation season, and sudden flash floods by the flow tides.

In case of flood, water flow and heavy rain, the peasants make a small and thin canal for passing water. They supply water through irrigation from the nearest river in the dry season. They use pesticides and insecticides from pest and insects attacking. They use fertilizers to improve soil fertility. In the case of using insecticides and pesticides, 20% of peasants use pesticides and insecticides for paddy fields but a large number of peasants (80%) peasants were confident that they do not need any type of pesticides and insecticides and they do not need to use those. This group also expressed that pesticides and insecticides are not enough effective (50%), expensive (80%), and unavailability (60%) and 40% of them defined that said pesticides and insecticides are harmful to crops and land.

The peasants who use fertilizers have some rationality for using these. Their observations are: i) Fertilizers improve soil fertility, ii) They protect the plant from the attack of pests and insects, iii) They increase crop productivity, iv) It is available, v) Cost is reasonable and same times cost becomes very high, and then they can't afford it, vi) There main observation is the adequate amount and higher cost of fertilizers, and vii) They are bound to buy fertilizers. The peasants who use fertilizers, 64% of them believe that fertilizer increase production and 34% use fertilizers by seeing other peasants' user. Although some families do not use fertilizers. Poor and marginal peasants are in this group they think the following things: i) Cost of fertilizers is high, ii) Fertilizers are not always available. When they need it, they do not get it, in many cases. iii) Fertilizers are harmful to land and crops, iv) Some peasant believe that God punishes them so they have nothing to do, and v) Some don't know anything and have no command of fertilizers. The peasants who do not use fertilizer, 20% of them excused that fertilizers are not available at all time, 36% defined the high cost of fertilizers, 16% of peasants are not curious and serious about using it, and the rest 29% peasants do not need fertilizers.

The peasant expressed similar argument for irrigation. The peasants choose irrigation pump from their understandings such as access to irrigation, the obligation to enroll in the facilities while needed, and the availability of the pump. Though they have a few complaints as well: not getting water as needed, breakdown of the system, etc. The peasants who do not enroll in irrigation, their arguments are the lack of pump, distance

from the water sources, higher expenses of the irrigation, etc. For using pesticides and insecticides they also think in different ways. The irregular, occasional and minor users of insecticides and pesticides have no reactions. For the peasants who do not use pesticides and insecticides, their logics are: i) expensive and unaffordable, appropriate items are not available as needed, ii) Insecticides and pesticides are ineffective, iii) It is harmful to land and crops and after using those pesticides and insecticides new weeds growing up.

4.5 Patterns of Cultivation:

Agricultural production mostly follows the traditional process. The development of technology in agriculture is deficient. As a result, agriculture became an unprofitable sector. The peasants indicated agriculture as a means of consumption. Commercial production and marketing did not develop. The farms do not encourage agriculture. Due to the traditional pattern of plough and land use, rice and rye cultivation deserve hard work. 38 peasants (76%) expressed that they had to work hard for rice production in the years 1994 and 1995. For rye production, this number was only 3 (6% peasants). Consumption needs are the most important goal in the cultivation pattern. They take the risk of excess production very rarely. For the abovementioned circumstances, the rich peasants and landowners lose their interest in cultivation and they depend upon the conventional contact basis cultivation. On the other hand, the marginal and poor farmers, who do not have available land become beneficiaries by taking land from landowners. In the year 1995, a significant amount of cultivation area has been increased. The peasants claimed that approximately 15% area has been added to cultivation than that of 1994. 6 peasants (12%) claimed that they bought few amounts of land nearby and 8 peasants (16%) informed that the expansion took place due to their sharecropping and leasing. 7 peasants started cultivation for the first time in 1995 which was a very significant development. The villagers observed that a few numbers of peasants are enrolled in farming each year. On the other hand, 4 peasants (8%) left cultivation and leased their land to the new peasants.

i) The Sharecropping System (*baghchash protha*)

Sharecropping is available in agriculture. In this system, the landowner gives land to a farmer to cultivate for a year or a season. The cultivator never be a landowner in this system even after cultivating for many years. After any season, the landowner can stop the share-cropping. It is featured in different ways. Three components are considered here; i) land, ii) Cultivation, and iii) Necessary tools and supplies. The landowner is called *barghader*, and the cultivator is called *barghachashi*. For owning the land, the owner gets one-third of the produces, for cultivation the farmer (*barghachashi*) gets one-third of the produces, and the rest third part is distributed for supplying the tools and machineries for production purposes. This distribution is done in three ways as follows:

a) One-third for the landowner (*malik*) and two-third for the cultivator: here landowners do not supply anything for production without land. Seeds, fertilizer, pesticides, insecticides, seed-bed, labour and necessary capital are supplied by the cultivator. Moreover, the landowner supervises all the things. The cultivator gets two thirds of the harvest; half of that is for supplying the necessary tools, cost, etc. and the other half (one-third of the total) for his contribution to the production process as a cultivator.

b) Two-thirds for the landowner (*malik*) and one-third for the cultivator: Here the cultivator participates in the process such as plough, managing labour, seeds, etc. Necessary capital, means of production, etc. are supplied by the landowner. Generally, marginal and poor farmers come into this type of contact though there is a decreasing tendency of this pattern.
c) The fifty-fifty share: The two parties supply machineries and bear the cost of production equally except for land and labour. The landowner gives land and some machinery facilities and the farmer organizes and supplies labour. After production, each gets fifty percent of the harvest.
In the sharecropping system, the social relation between the landowner and the sharecropper is a patron-client relationship. The sharecropper is bound to obey the commands of his owner. One of its basic criteria is that it is the most unprofitable production system. The cultivator is not liable for production. There is no importance to the landowner for increasing production. As a result, the cultivator or the owner, none is interested to apply modern technologies, special methods and techniques.

ii) Mortgage System (*bondok* and the *kalashi system*)

The mortgage system becomes very popular in cultivation. In this system, the owners of the land give scope to the cultivator or money lender to till their land for a fixed season(s) and take cash money. Based on the tenure of the mortgage, it is defined by different names. If the mortgage is taken or given for one or two years, it is termed a one-year or two years mortgage. In this system, the cultivator gives money in cash to the owner of the land before taking the land. The cultivator himself takes the liability or risk of production. Here, the relation between owner and cultivator is a freehold system for a certain period. The farmer targets to maximize the production to be the beneficiary. The farmer himself bears all of the expenses of the production and becomes the owner of the total production. The owner is out of risk. He gives importance to cash money and the farmer gives importance to his freedom and production. In this system, the farmer never becomes the owner of the land. After a limited time, the owner takes ownership of the land and refunds the mortgage amount to the cultivator. The tendency of taking loans is popular among middle-class farmers.

a) Lease:

The leasing system is practiced widely in the village. Farmers have to pay based on the contract between the landowner and the farmer. It is the opposite system of the mortgage based on payment to the landlord. In both cases, the cultivator has to pay a fixed amount of money or pay for goods. The two parties, the landowner and the cultivator, contract each other at the beginning of the season about how much the cultivator has to pay for what amount of land. In the lease, cultivators pay a certain amount based on the assessment of possible production. He will not get any refund after the end of the contract. The cultivator bears the total cost of production and supplies the means of production. Here, the social relation between the landowner and cultivator is not flexible nor is it a patron-client relationship. It is the mixed type relation of the two parties. There is no fixed rate that will be returned to the owner. Generally, twelve and a half mound of rice is to be paid for one acre of land.

b) The *Khai Khalashi* system:

It is a long-term mortgage system. The land owner gives land for a long term to a cultivator in lieu of cash money. Though it is different from a mortgage but it is a type of mortgage. The landowners hand over their land for money to a person who is a real cultivator and reliable. The moneylenders (*mohajon, dadonder*), rich and middle peasants can take this scope to get land for a definite term. The mortgage taker supervises the land for the mortgage period. When the landowner refunds mortgage amount, then the land is handed over to the owner. If the owner fails to pay back on time, he has to pay with interest. If the landowner never pays, he may lose the ownership forever. But those terms and conditions must be in written form. In this system, the landowner can mortgage land for twelve years. But no owner gives land for twelve years. In major cases, they mortgage land for three, five or seven years. The money lender i.e., mortgage holder controls the land instead of the interest of his money.

In the abovementioned discussion, it has been shown an impression of peasant rationality in the agrarian structure of Bangladesh, especially in the pattern and the conditions of cultivating system. The economic relation between the cultivators and landowners is related to cultivating system and it determines the pattern of social relations. There is definite interaction among the land owners, the farmers, the means of production and their cost. Economic exchange controls the economic relation at every stage. Involving in agriculture and marketing of agro-products is related to the financial portion of daily life and living standard. For the static position of agroindustry, agriculture becomes an unprofitable sector. As a result, the rich peasants and the land owners become isolated from direct agricultural production. Instead of sharecropping, the mortgage and the lease system become popular.

5. Concluding Remarks

The major land is controlled by a small number of holders and a large number of people stay out of any domain over land. Surplus capital is the main source of agricultural credit. The rich peasants were accustomed to saving money. The poor peasants count their fate and luck for their abject socio-economic condition. They consider themselves as they are peasants by born, so they have to live as a peasant their whole life. They presume if anybody exploits them God will take revenge. Sometimes, they feel that their unity may create any sort of danger for the exploiter rich but they don't have that much courage to take this kind of initiative. The poor become satisfied with their social position if they get mercy from their immediate superiors. The marginal and poor peasants always try to show a kinship tie with the rich. Every peasant feels that he will become rich sooner or later.

The Peasants consider technology as a risk and their ignorance can made obstacles for them. The rich can use modern technology but usually they do not do it. Cultivators depend not on the scientific basis of technology but on the social reality. They are controlled by social relations and bear traditional cultural values. They do not like to break down the wider social order. The poor peasants are typically obedient to their landlord and think land is sacred things, so they never like to be irrespective of the landowner. There is a communication gap between the cultivators and the authority involved in the agricultural sector of the Government of Bangladesh. There is little relation between the government policy for agricultural development and the implication

of the policy. The major facilities of the state are absorbed by the rich peasants and the subsidies are enjoyed by the rural musclemen and traditional leaders through exploiting the rural poor peasants. One sort of depeasantisation is taking place among the village community.

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