

Cultivable Lands and Land Measurement in Early Assam

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The agrarian economy of a region does not simply speak of the rural agriculture based economy, it encompasses the areas like economic development and social progress and above all, the polity formation. This paper is an attempt to study the land measurement system prevailed in early Assam – a vital part of agrarian economy – which not only gives us an idea about the size of cultivable lands given in donation, pattern of agriculture, progress of agricultural expansion, agricultural production etc. In the study of agrarian economy in early Assam, the scholars like Nayanjot Lahiri,¹ Chitrarekha Gupta,² D. Nath,³ S. Chattopadhyaya,⁴ have already addressed some of the issues related to land system and agriculture. However, some of the important areas such as land measurement system prevailed in those days and the areas/size of the cultivated lands are yet to be explored. Except some incidental references, scholars have not gone thoroughly or dealt with these issues in organized form. Therefore, an attempt has been made to understand the unexplored areas of the broad theme, which may contribute an additional note to the study of the rural settlements and pattern of agriculture of early Assam.

The main features of the rural environmental backdrop as reflected in the functional parts of the inscriptions of early Assam may be drawn in following outlines – (i) The rural settlements consisted of the arable land (*kshetra*), waste land (*khila*), land for cattle grazing which was located at the outskirts (*go-(pro) câra bhumi*) and homestead (*vastubhumi*) etc. It is to be noted here that most of the lands granted were situated in the settled areas (as indicated in the descriptions of their boundaries). However, the lands granted through the Nidhanpur CP Inscription and the Uttar-Barbil CP Inscription were situated in the unsettled areas. In both the inscriptions, we do not find any settled areas near the boundaries

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of the donated lands. Besides, the Char land developed from the shifting of the two rivers Kausika and Ganginika (in the Nidhanpur CP Inscription) were given to the Brahmanas as extended (waste) land. (ii) The homestead land was the core area in and around which all productive activities were carried on. The land was measured on the basis of its production rate of paddy.

It is very difficult to make a statement on the method of land measurement specifically on the Units in use in land measurement as the land grants of early Assam do not frequently speak of any specific unit based on which the areas of donated lands were measured in those days. The land measurement system prevailed in the contemporary eastern part of India may throw some light on the issue. The inscriptions such as Faridpur, Damodarpur, Baigram, Paharpur, Dhanaidaha Plates etc. discovered in the Pundravardhana *bhukti* or north Bengal and in the Dhaka-Vikrampur-Faridpur region of present Bangladesh belonging to the Gupta and Post-Gupta period of early Bengal reveal that a peculiar system of land measurement was common with units known as *âdhavapa*, *dronavâpa* and *kulyavâpa* in this region. Even these units in the form of *Kulyavây* (i.e., ancient *Kulyavâpa*, *don* or *dona* i.e., ancient *dronavâpa*) and *ariha* (ancient *adhavâpa*) have been known in many districts of eastern and western Bengal and the adjoining western districts of Assam till very recent times. 'Vapa' the suffix of the names of units, which means the act of sowing, implies that these units were calculated on the basis of the sowing capacity of a particular piece of land. In other words, the amount of the seeds of paddy required and suitable for effective or successful production in a particular area of land would determine the unit of *ârdha*, *drona* and *Kulyavâpa*. It is very difficult to know the exact amount meant by these units, as these were not prevalent in the same locality and because of varied sowing capacity of the land in different places these were also calculated in various ways. Besides these units, another type of land measure was prevalent in Bengal and Assam, known as *Pataka*. On the basis of the information gathered from the Gunaighar Plate of Vainyagupta, Asrafpur Plate of Devakhadga and Tippera Copper Plate of Lokanatha, S.K. Maity comes to the conclusion that one *Pataka* is equivalent to 40 *dronavâpas*.⁵ It is to be noted here that both the systems of sowing seeds direct to the soil and transplanting seedlings have been prevalent in Bengal (even in Assam) from much before the date of these inscriptions. Therefore, two types of interpretations regarding the system of land

measurement in Bengal during Gupta period, one based on the system of transplanting seedlings by D.C. Sircar, another, of sowing seeds direct to the soil, by S.K. Maity have been put forwarded.

According to D.C. Sircar⁶

1 <i>ārdhavāpa</i> = 4 to 5 <i>bighās</i>
1 <i>dronavāpa</i> = 16 to 20 <i>bighās</i>
1 <i>Kulyavāpa</i> = 128 to 160 <i>bighās</i>

S.K. Maity after a detail discussion on land measurement of Bengal made in his work *Economic Life of Northern India* (p. 48-61) has prepared a table thus –

1 <i>ārdhavāpa</i> = $1\frac{1}{8}$ to $1\frac{1}{2}$ <i>bighās</i> = $\frac{3}{8}$ to $\frac{1}{2}$ acres
4 <i>adhavapas</i> = 1 <i>dronavapa</i> = $4\frac{1}{2}$ to 6 <i>bighas</i> = $1\frac{1}{2}$ to 2 acres
8 <i>dronavapas</i> = 1 <i>Kulyavapa</i> = 36 to 48 <i>bighas</i> = 12 to 16 acres
5 <i>kulyavapas</i> = 1 <i>pataka</i> = 180 to 240 <i>bighas</i> = 60 to 80 acres

In support of his own interpretation, Maity further pointed out “since the root ‘Vap’ means to sow or scatter, and ‘to transplant’, this interpretation is much closer to the obvious meaning of the word”.⁷

The basis of the land measurement system as mentioned in the inscriptions of early Assam reflects a different type of method where the donated lands were neither measured on the basis of the amount of seedlings transplanted nor seeds sown but in terms of the amount of paddy the land could produce. The words such as *dhanya- dvisahastrototpatibhumi*,⁸ *dhanyatrisahastrotatpatibhumi*,⁹ *dhanyachatohsahastrototpati-bhumi*¹⁰ clearly indicate the system. Therefore, all the calculations and interpretations regarding land measurement made by Sircar and Maity are not applicable in case of early Assam. While the most of the inscriptions of early Assam are silent about the unit of land measurement, the Kuruvabahi CP Inscription of Harjaravarman (early part of the 9th century AD) clearly men-

tions the unit as *putaka* (*dhanyachatuhshastraputaka*). Considering the manner in which the Kuruvabahi CP Inscription mentions the name of the unit i.e. *Putaka* (paddy 4000 *putaka*), and the other inscriptions where we found mentioned simply the amount of paddy without the name of the Unit such as – paddy of 2000 (Uttar-Barbil, Bargaon, Guwakuchi and Khanamukh CP Inscriptions), paddy of 3000 (Suwalkuchi CP Inscription), paddy of 4000 (Caratbari CP Inscription) etc. upto paddy of 10,000 (Pushpabhadra CP Inscription), we may easily presume that the unit *Putaka* was so common, popular and standard one that the composers of the other inscriptions might have not felt it to be necessary to mention in the text. Somehow, it got mentioned in the Kuruvabahi CP Inscription which was nothing other than *putaka*.

Though the term *putaka* has not been found mentioned in any other inscription of early Assam, we have come across the term in the same form (i.e, *putaka*) and in the form of *puti* in the inscriptions of medieval period of Assam. These inscriptions are – (i) Nilacala CP Grant of Madhavadeva (c. 15th Century AD) (ii) Hayagriva-Madhava CP Grant (c. 1677 AD) Lepetkata CP Grant of the time of Rudrasingha (c. 1701 AD) (*putaka* has been found in these inscriptions) Dhenukhana CP Grant of king Satyanarayan and Pratyakshanarayana (c. 1392 AD), Ghilamora CP Grant of king Lakshminarayana (c. 1401 AD). (The term *puti* has been found).¹¹ In these inscriptions, the two terms were used to indicate a particular land measurement system which is a synonymous to the term in Assamese *purâ*. The Assamese *purâ* is however used to imply both land and grain measure in the same manner as the terms *drona*, *puti* (in Sanskrit) and *Putti* (Telugu).¹² Thus the term *putaka* or *purâ* may imply 4 bighas in case of land measure while 3 *donas* in terms of grain. It will be worth mentioning that the *dona* is a basket or vessel shaped instrument made of cane or bamboo shreds or of a particular variety of leaves which has been used for measuring grains not only in the early days but also in the present day rural areas of Assam. This was the

lowest unit of measure then in use containing about $3\frac{1}{2}$ seers of paddy (3.215 kg.) or 5 seers of rice (4.286 kg). Interestingly, the word *putaka* in the Sanskrit lexicons is shown as a term meaning a cup or basket or a vessel made of leaves. Hence, the unit *putaka* was used in the early epigraph to mean the weight of paddy produced in a particular area of land and 1 *Putaka* is equivalent to 3 *dronas*

or *donas* or 9.645 kg of paddy. Assuming that a *bigha* of land could produce an average of 10 mounds of paddy (in case of wet-rice cultivation)¹³ (1 *mound* = 12 *donas*) then, the measure of the cultivable land granted to the Brahmanas through the Kuruvabahi CP Inscription was -

$$1 \text{ putaka} = 3 \text{ donas, therefore, } 4000 \text{ putaka} = 12000 \text{ donas}$$

$$\text{Again, } 12 \text{ donas} = 1 \text{ mound, } 12000 \text{ donas} = \frac{12000}{12} = 1000 \text{ mounds}$$

Therefore, 4000 *putaka* means 1000 *mounds*.

The area of the donated land in the Kuruvabahi CP Inscription is -
10 *mound* is produced in 1 *bigha*.

$$\text{Therefore, } 1000 \text{ mound is produced in } \frac{1000}{10} = 100 \text{ bighas}$$

The area of the donated land is 100 *bighas* besides accompanying areas of grazing pasture, fruit garden, uncultivated, marshy and wastelands.

Other rural settlements found mentioned in the inscriptions of early Assam are *kshetra*, *vataka*, *grama* and *bhumi*. According to Panini, *Khetaka* is a suffix denoting smallness of a settlement.¹⁴ *Brihatkatha*, a later work defines *khetaka* as surrounded by rivers and hills.¹⁵ Monier Williams defines it as an agricultural field.¹⁶ The *Vataka* may refer to settlement having some kind of surrounding enclosure. The *Vataka* was probably a small village or part of a village bigger than a *Kshetra*. *Gramas* are abundantly mentioned in the text which could vary in size as regard their population. According to Kautilya they could have 100 to 500 families.¹⁷ The exact area of the *bhumi* is not known but it was obviously smaller than a village.

On the basis of the above discussion, a table (Table-1) may be prepared showing the tentative areas of the cultivable lands and the rural settlements of early Assam.

Table-1

Inscriptions	Settlements and Number of Donee	Area/Size of the Cultivable Land (excluding the areas of forest marshy and home stead etc.)
Nidhanpur CP Inscription	Mayurasalmalagrahara, 205 Brahmanas	10,250 bighas ¹⁸
Parvatiya CP Inscription	Haposagrama, 1 Brahmana	Bigger than a <i>pataka</i> or more than 240 <i>bighas</i> .
Ulubari CP Inscription	Land of 2000 unit of paddy, 1 Brahmana	50 <i>bighas</i>
Carat CP Inscription	Land of 4000 unit of paddy, 1 Brahmana	100 <i>bighas</i>
Nagaon CP Inscription	Land of 4000 unit of paddy, 1 Brahmana	100 <i>bighas</i>
Bargaon CP Inscription	Land of 2000 unit of Paddy, 1 Brahmana	50 <i>bighas</i>
Suwalkuchi CP Inscription	Land of 3000 unit of Paddy, 1 Brahmana	75 <i>bighas</i>
Guwahati CP Inscription	Land of 4000 unit of paddy, 1 Brahmana	100 <i>bighas</i>
Guwakuchi CP Inscription	Land if 2000 unit of paddy, 1 Brahmana	50 <i>bighas</i>
Khanamukh CP Inscription	Land of 2000 unit of paddy, 1 Brahmana	50 <i>bighas</i>
Pushbhadra CP Inscription	Land of 10,000 unit of paddy, 1 Brahmana	250 <i>bighas</i>
Subhankarapataka CP Inscription	Land of 6000 unit of paddy, 2 Brahmanas	150 <i>bighas</i>

[The area of other rural settlements such as *kshetras*, *patakas* can be presumed on the basis of the calculation made by S.K. Maity. (*supra*)]

Notes and References:

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6. *Bharat Kaumudi*, R.K. Mookerji Commemorative Volume, Part – II, Calcutta, p. 947-48.
7. *ibid*, p. 59.
8. Uttar-Barbil, Bargaon and Guwakuchi CP Inscription, M. M. Sarma, *Inscriptions of Ancient Assam*, Department of Publication, Gauhati University, 1978.
9. Suwalkuchi CP Inscription, *ibid*.
10. Nagaon CP Inscription, *ibid*.
11. Neog, M. (ed, 1974): *Prascyasaasnavali*, Asom Prakashan Parishad, Guwahati.
12. Sircar, D.C. (1966): *Indian Epigraphical Glossory*, Motilal Banarasidass, Delhi, pp. 268-69.
13. A general survey shows that a *bigha* of land can produce 10 to 20 mounds of *Shali* paddy if cultivated without the help of modern technology in present Assam. Considering all constrains in the process of wet-rice cultivation including the varied quality of land, here we have assumed an average of 10 mounds of paddy in a *bigha*. In case of the production of *bau* and *ahu* varieties, the amount may be decreased up to average 6mounds in a *bigha*.
14. Cf. A Ghosh, *City in Early Historical India*, Simla, 1973, p. 37.
15. *Ibid*.
16. *Sanskrit-English Dictionary*, Varanasi, 1963, p. 332.

17. Ghosh, A., *op.cit.*, p.36.
18. Nath, D. (1991): 'Aspects of Agrarian Relations as Reflected in the Copper Plate Grants of Ancient Assam', *Journal of Historical Research*, Vol. IV, Department of History, Dibrugarh University, Dibrugarh, p. 50. (He has calculated the area of the donated land assuming 6 mounds of production of paddy in a *bigha*).

