CURRENCY, WEIGHTS & MEASURES and TAXATION

We shall consider in the following pages such problems, as currency, weights & measures and taxation, which are inter-related in more than one sense. The uniform system of currency, a standard unit of weights and measures and a sound system of taxation are necessary, for ensuring a balanced development of the economy, particularly during the time under study. A close examination of the inscriptions, indicates, that though the principal features of a money economy generally prevailed, the people were not entirely free from conditions of barter economy and other peculiarities of a regional kind. For, due respect had to be paid to local sentiments and regional differences based on customs and traditions. For instance, besides private mints, the principle of uniformity in weights and measures was not observed scrupulously. So also, the levy of taxes, sometimes was adjusted to local conditions which may be regarded as exception to the rule. Perhaps a second reason may also be advanced. Where areas belonging to a particular chieftain or king was overrun by another, it was usual for the conquerors to impose their coinage, weights and measures and taxes on the people of those regions. In fact, study of inscriptions from Kolar, Mysore and Bangalore brings out the truth of the above statement. The Chola managed to bring their own system slowly which remained or persisted long after the need for it was over.
The importance of this chapter in a study of the economic conditions of the people cannot be over-emphasised for it will help a better understanding of their standard of living. For instance, if one can translate in terms of modern currency the prices of certain goods and commodities used for consumption and the rates of wages, one can roughly estimate whether the people enjoyed cheap living. Similarly, a consideration of the taxes will indicate the extent to which the people were better or worse off. All this and allied problems will be taken up for consideration in their appropriate places.

1. A. Types of Currency:

A study of the inscriptions of Karnataka show that the following types of currency were in circulation:

(1) Gold:

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1. See Altekar, Rāshtrakutās & their times - tables on pages 367 386 & 397 and the conclusions which have to remain tentative. One serious limitation refers to the rates of wages.


5. M A L, 1940, p. 106. (Hn).


7. Ibid., No. 338 of 1940-41.

8. E C, III(1), TN No. 15
Consideration of Coins - Gold:

(i) Gadyana: Of all the gold coins, gadyana was the most widely known circulated currency and the donations made in cash were invariably expressed in units of gadyana. They were variously known, either after the name of the mint which issued them such as Lokkl gadyana, Ibars Lokkl gadyana, or used as suffixes to some of the taxes such as nimdu dana gadyana, viracase gadyana.
anevase gadyana, todaru gadyana or named after dynasties like Rvesala gadyana. Sometimes they were named after kings. Nara-simha gadyana and after gods and so on suchasviri Ramadeva gadyana, Arya gadyana, Bripad Bhairova gadyana, Fon gadyana. Rave, jagadola gadyana, perhaps named after jagadala Somanatha. Gadyanas were issued in gold and used for payment of taxes.

According to Appadorai, the gadyanas, which appear in kannada inscriptions mostly come from Kalianu (57.5 gr.) and weighed little more than the kalianu ranging between 61.75 & 63 gr. and that it was approximately half a sovereign. As observed by Altekar, the coins of south India, similar to those of north India, depreciated in weight from about 120 gr. to 60 gr. during the period of our study.

b. Mlska: Of the other gold coins, mlska is rarely heard of, which means that as a unit of circulating medium, it had passed out of use, though quite well-known in earlier times. It retained only its academic significance. Inscriptions from the districts of Hassan and Shimoga and Fanjim(Goa) only refer to them. It may

13. S.I.I, XX. No. 320

103. E.C, VII (ii), XI. No. 103
4. E.C, I, No. 49.
5. E.I, XXX, No. 15.
10. L. Gopal E.I, N.I, p. 211, Naity, ELNCT. p. 266
11. Sometimes found associated with lokki and perhaps the same as gadyana minted at Lokki-gundu.
12. M.A.R, 1940, No. 4. p. 106
14. A.R (18) 1951-52, No. 5 p. 7
therefore be concluded from the province of inscriptions that the circulation of nīkta was confined to particular regions, especially, the headquarters of dynasties.

c. Māda:— Variously named as Madurantaka māda, Bhujabalā māda, Gandha māda, Kalāṭṭyanka māda, Jaya māda, Chaharadā māda. Kālāma mād and Rājorśī māda, it is given a kānana origin by Hultzsch and ascribed to Vikramādiya Chālukya. The inscriptions which refer to māda come from the districts of Mysore and Kolar. The coin seems to have been in circulation in the areas occupied then by the Chōlas. It was either a pāgoda or half a pāgoda, while the relationship to other gold coins is a matter of conjecture.

d. Kālanjū:— Kālanjū is sometimes referred to as a unit of currency, as well as, a unit of gold. It derives its name from the indigenous Good called kālanjū or Kalāṭṭa bean, weighing about 52 gr. It leads us to the conclusion that the word kālanjū was applied to a unit of currency as well as a unit of weight particularly for weighing gold. There is no unanimous opinion about the weight of kālanjū. According to FranjtMath, the weight of kālanjū was not more than 57.6 gr, while according to the government epigraphist, it weighed 60 gr, and so on. Kālanjū was equal to 3 Akberi rupees and later 3½ rupees.

e. Varāha:— This was chiefly associated with Hōyasalas. References to it are many. Some of the North Indian rulers

1. See E I, VII, p. 130, fn. 1.
5. For details see FranjtMath, SECAL, p. 91, Appadurai, DCSI, II, p. 706.
issued certain varieties of coins, which according to contemporary inscription, included Śrīmad Akṣaraśastra and Kṛṣṇa-kosa vimsāṭapakā. It is mentioned that the weight of Śrīmad Akṣaraśastra was about 65 grs.

1. Puspa and Dalā: They may be considered together, for they seem to have the same origin from puspa or flower, dālā meaning a petal. Evidently they were units of currency for the very important reason that the mints were required to give a dālā on their transactions. An inscription says, that a dancer Madavve gave two flowers 'eradu huva' which stands for currency. The śāntotra inscription dated 10th century, refers to puspa a flower evidently a gold coin with floral reverse. The mints at Kurugudu Bellary, specialised in the making of dālā type of coins and exchange them for puspa type of coins struck by some other mints in the area. The coins were merely named, after the designs used on them, either a petal or a flower and came to be regarded as units of currency. Beyond these, it is difficult to say anything about the weight or value of these coins.

2. Ponnu and Paksajvara ponnu: The term ponnu is so ambiguous and loosely used in the inscriptions, that it is very difficult to say whether there was any unit of such currency or merely used as a suffix to all gold coins. Thus, we hear that one Tantrapāla alīa Periya Būriga gave six pon to provide rice for morning offerings of God, and it was also pledged that daily one

1. See Basuwar Sico Socio Economic History of Northern India p.215-17
3. E-L. IV, No. 6, Sudravyam dvyātibhih panchapuṣpaḥ, see also IV XIV, No. 195-Fochina moryall koṭṭa dalakke viṣa eradu, see also MIBR. 16 COL., Kan. Ins. No. 8; 5 1 X, IX(1) No. 164
4. See Salito re 8PL V, 12, glos. p. 455.
nili of rice was to be provided out of interest on the above amount. According to another inscription, 5½ pon van given for daily offerings. There are other records which refer to pon in a general sense of gold for instance umbeliya pon.

Of the varieties of pon we have what are called pakaśvara pon, hāliya pon, hōla homm, dharapī pon and so on. Of these hāliya hom, if we follow the dictionary meaning, stands for coins with the eagle figure. If technical meaning is taken, it stands for coin prepared out of sheet-metal and not bars. Pakāśvara pon may stand for coins with the figure of king of birds namely eagle and the coins bearing the symbol of eagle. Also, there is another, the peacock type of coins which normally were minted at Koṭṭitone. These were exchanged at the mints for lokki coins. The meaning of hōla homm is not clear. However we can guess that it stands for gold coins minted in the neighbourhood of Krishna region.

h. Pana:- Even as silver and copper pana, gold pana or pann are heard of, and according to Appadorai, had an average metal-content of 5.28 ḍr. It is not clear whether jorukivana can be regarded as one such. Pana is also used in the sense of money in general. There are references in inscriptions to interest on gold stated in terms of pana and which roughly works out to one-tenth of gadyāna or one-gadyāna = 10 pana and similar contributions out of toll incomes are referred to in terms of pana.

1. K.C. X(I), p. 37A
2. Ibid., No. 85, ibid Mb. 57 b.
3a. S I I, XII(ii) No. 152.
3. I N E K, No. 5; S I I, XII(ii) No. 136. See also Appadorai KOSI, II (vi), p. 711.
5. S I I, IX(1), No. 164.
8. S I I, XII(ii), No. 160.
only to gadyāna. If we examine the two records, it seems to create a doubt whether the ratio is between silver pana & gadyāna or gold papa and gadyāna. So far as weight is concerned gold papa weighed 5.8 gr, while the gadyāna or kalanju weighed about 57.82 gr. But a silver papa also weighed equal to that of gold kalanju. Taken either way, the one is to ten relation seems to be persistent. Thus looked at, from the point of view of value only, silver papa was one-tenth while from the point of view of weight gold papa was one-tenth. This is the only way a compromise may be reached. Otherwise there is no point in saying that both gold & silver papa are onetenth of kalanju.

Other Metals:- A difficulty needs to be stated at the outset. The inscriptions do not generally mention the metals in which other coins are issued. This applies with greater force when we deal with coins made of silver and copper. Except for the fact, that the inscriptions keep to some order in mentioning them, they do not give any clue regarding the metals. Only we have to infer indirectly that the coins mentioned next to gadyāna are generally in metals other than gold.

e. Pana:- Of the most popular and most widely-circulated coins, were the papas, evidently of silver, for generally they are

1. See Appadorai E C S I,II, p. 716. Sometimes references are made to kṣaya the metallic content of which varied from 6 gr. to 156 gr. ibid., p. 711. Even today goldsmiths use kṣaya in connection with weight of gold. References are found to dramma in Basavanpa’s vachana- ‘Hēdārūkko ṛōdare kalladrama vēyittu’ KSSA, (Murthy), p. 393. It seems that by 18th century the Roman dramma came to be associated with counterfeit coins. In fact an inscription of 951.A (1A XII, p. 257) refers to karīva drmma, a counterfeit coin. See, Vaddaradane for ref. to dinar (quoted by KSSA, Murthy) p. 393.
2. According to Kittel Papa is a small coin of silver or gold. Gopal,L. is perhaps not correct when he says that papa is used for a copper coin only as opposed to rupya or rūpaka for a silver
stated next to gadvana in the inscriptions. It must have been a widely current coin in the area as references to it are made in the inscriptions from Coorg, Sravanabelagola, Mysore, Bangalore, Shimoga, Kolar, Bollary and Dharwar.

b. Poga: one-fourth of a pana. Spoken off in terms of small and big or kiriva and kiriva paga also seems to have been a subsidiary coin and quite well-known. Perhaps it was next only to pana, that is, a copper pana and mostly heard of in the Karnataka region and quite popular in Bollary.

c. Other coins: Of the other coins, viša, one sixteenth of a pana, silver or copper, is to be regarded as a weight of gold to one grain of rice corn. Also it is considered as a measure of land equal to nearly 2 acres. Kānti is one sixty-fourth part of a pana. Tāra referred to by Varthema is considered equal to one sixteenth of a paga. Abdul-Razzaq also refers to it as Tār or Tāra.

Copper tāra is equal to one-third of a pana. Pēle is equal to one-eighth of a rupee. Kākinia is heard of in North Indian inscriptions also. 20 cowrie-shells make one kākipi, a kākinia being equal to 1 pana. It seems to have been a very ancient coin, spoken of even by Pārada.

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1. E.C. IX, Br. No. 6 and also E.C. IV(i), Kr. No. 63
2. E I, XIII, No. 3A.
4. Saloyer, SPLV, II gloss. p. 437
5. E I, XIII, No. 3 A; S I, IX(i). No. 141 see also Salestere SPLV, II gloss. p. 445
6. T V Mehalingam Economic life in Vijayanagar, p. 179: E C VII(i), H L No. 18
C. Relative value:

The next point to be considered is about the relative value of coins. There are three metals involved here, gold, silver and copper and we have already gained some knowledge of the weight of the coins which throws some light on the metallic content of the coins. Though some slight variations are noticed in this respect as between coins of the same metal, perhaps depending on the availability or non-availability of the metal, and the financial condition of the issuing authorities, there appears to have been some uniformity followed. As between the use of metals for purposes of coinage, it seems that a more liberal use of copper was made while sparing use of gold and silver was inevitable.

The exchange value of the coins was based on the metallic content and decimal notation followed, at least in some cases. It is possible to reconstruct the exchange value between the different units of currency with the help of the inscriptions.

1 Gadyāṇa = 10 Peṇaś
1 Peṇa = 20 Viś
1 Viś = 4 Ḍeṇa
1 Ḍeṇa = 2 Pāle
1 Pāla = 64 Kāni
1 Tūra = 1 Kāni

Kalonji and Nīska are treated as similar to Gadyāṇa as far as their exchange value goes and Kāni (gold) appears to be one-third

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1. For instance a gold pana weighed 5.8 gr. while a gadyāṇa roughly weighed 57.6 or 58 grs. and the ratio fixed at 1:10.
2. E. G. VII), E1, No. 101
3. S I I, XII (ii) No. 181. In another instance 1 viś is regarded as 1/18th. of a pana. Of all coins this was the lowest. See further discussion Murthy KSSA, p. 391.
4. E I, XIII, No. 3A, pp. 16-27
5. E I I, IX (i), No. 78
kalanjui. In terms of modern currency, one kalanjui appears to have been equal to 3 Akbari rupees in 1651 and later in 1651 valued at 8 sh. while the rupee was valued at 2 sh. 3d. and gadvāna at 3½ Rupees. If the rupee was valued at 2 sh. 3d. in 1651, its value to-day would be equal to 3 22/80 Rupees assuming that 21 rupees equals 20 sh. (21/80 x 9/4 = 189/80) and 3½ Rupees equal to Rs. 8.26 (189/80 x 7/2 = 1289/160 = 8.26) i.e. equal to a gadvāna. This seems to approximate Appadorai’s statement that a gadvāna was almost equal to a sovereign and when he wrote his work the exchange rate was 1£ = Rs. 13-5-3.

D. Minting

The last point which remains to be touched upon, refers to the question of minting of coins. While the fact that the state did not lose any of its sovereign rights by allowing private mints to function needs no emphasis, it is perhaps to make available and with minimum inconvenience, money in adequate quantities that this was done. More than anything else, it was risky to carry currency, especially gold coins from place to place. In fact, we hear of private mints solely manufacturing gold coins and officers appointed specially to act as supervisors of such mints. The mints, besides issuing double die-struck coins, were expected to pay a small fee whenever called upon by the community as a gift to the temples which meant that they derived sufficient profits by minting coins. It is quite likely that the state allowed them a small commission.

2. Sree Altekar, Rashtrakutas and their times, p. 367, table. It has based his calculations on the metallic content of gadvāna by weight (96 grs.) and has arrived at Rs. 10/- on the market value of gold in 1934.
3. S I I, IX(1), No. 104. According to the record, the mints converted lokki gadvānas into peacock-coins and in consideration of the profits received they paid 18 gadvānas to the local temple.
for carrying out the function of minting coins. It involved at least one other process besides minting, namely, trimming and bringing the coin to uniform size and those who carried it out were called soukattukāras. We have no idea whether the edges were also milled to avoid counterfeiting. It is quite possible that there was a further division of labour i.e., those who brought metal pieces and into shape of a coin (bidigamata) and others who put stamps on them (undinovā karnata). While the coins issued by a particular mint, for instance lokkidavyānas had currency throughout, in areas where they were not current, there were mints which specialised in minting local coins, for instance Kottitone, and got them exchanged. It seems therefore that the region around Bellary had its own type of coin in circulation.

As regards the location of mints themselves, the inscriptions give clue to some of them. Lokkigunj was an important centre and its coins circulated in almost every part of Karnataka - Shimoga, Dijapur, Dharwar and Bellary districts. The mints issued gadyanas, niskas as also new series such as ḫāloktigadyāpa².

Sādi, another important centre in Ron taluk, Dharwar district struck in its mints double die gold coins bearing Royal seal. According to one of the inscriptions there was a royal mint master in charge of the mint and perhaps it was an official mint³.

Kottitone in Bellary district was another, specialising in the conversion of Lokkidavyānas into peacock type of coins. The mints were required to give peacock coins of the same weight as lokki coins and to pay out of their profits 12 gadyanas to the

2. S I I, XV, No. 82.
temple of God Svāmīdeva. It has been held that such payment was made in consideration of the fact that the temple had delegated its rights of minting to these private establishments.  

Besides Tumbalabī2 in Adoni, Kurnool district, the Gobhur inscriptions speak of another place, where there were kammaṭekāras licensed mint masters and also saukatukāras. Reference is also made to adhikāris who were to supervise and check the minting operations at various stages with a view to regulating purity and standard of coins struck by different licensees. 3

Indirect references to mints elsewhere such as Hidugunda4 Gadag and Alur6 are found.

2. Weights and Measures:

We shall discuss below the system of weights and measures which existed during the period under study. But even here a detailed examination of records indicates considerable regional variations, especially regarding land measurements, not so much evidenced in respect of the other types of measurements.6

The approach made to the study of the problem here is slightly different from what has been generally followed.9 Instead of making a more mention and discussing the various types of weights and measures, an attempt will be made to study commodity-wise, the weight and measurements of different articles, land itself.

1. S I I, IX(i) No. 164. See also Murthy FSA, p.390
2. S I I, IX(i), No. 228.
3. H A S, C O I Karnataka ins. No. 15, ins.No.8
4. F K K, No. 5.
5. S I II, XII(ii) No. 150
6. Ibid., No. 136
9. Appadorai E C S I, II, Ch.3. 'The great diversity of the units of weights & measures makes it difficult to find a common connecting link to form the basis of discussion ' (p.403)
being a commodity with a diversified system of measurement. So also, land-sites are *pivēsanas*. The regional peculiarities, wherever necessary will be noticed. The modern equivalents have been carefully worked out with the help of inscriptions and the works of Pranabth & Appadorai.

4. Land:

The most common units for measuring land were the following:

1. **Mettar**
2. **Kombha**
3. **Wali or Bāli**
4. **Bulaga**
5. **Flough land**
6. **Nivorna**
7. **Kuli**
8. **Bhumi or Manu**

Sometimes the area of land would be just indicated by the sowing capacity, i.e., kolage, khandura or mudo.

1. **Mettar**—Familiar to Telugu area as *Meruturu*², it seems to have been quite popular particularly in the areas of I, II and III zones of Mysore and only in the districts of Chitradurga, Shimoga, Kolar and Hassan districts of zone IV. The mettar unit of measurement was used for measuring dry³, wet⁴ and garden-lands⁵. The rods or roods used for measuring lands in mettar were separately named in various areas⁶ and of different dimensions. Sometimes, such terms as *gupisana⁷, kumbiga⁸, takklu⁹, kisukādu¹⁰*

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2. See R. Breonivanachar, Corpus Ins. Telugu districts, p. 206-207
3. E. C., V., At. No. 124
4. E. C., VI, Kd. No. 119
5. E. C., VII (I), Sk. No. 97
6. See annexeure A to the chapter.
Ka'ī, 1 Kenagādu, 2 Furlgero, 3 Gōvinākara, 4 Churchi, 5 Kāledi 6 were prefixed to the word matter. The differences in name were there to indicate the distinction between the units of measure used in one area from that of the other.

Another point revealed in one of the inscriptions is about the way matter figures are arrived at. It says 'Aivattāru gāna ghaleyalu niśada bhujoyam avigunisi yagadaloni pada kūṭi gunise vi krama doṇa toyalu'. It means that matter is calculated by the formula 'twice the length x breadth +1'. It is supposed to be one of the methods which does not preclude the possibility of the other methods.

There can be no uniformity about the value of the matter. Gōvinākara matter, a term used in the inscription may give clue to the area of a matter. According to the calculation of Pran Nath, Goearma is defined as the area of land where upon a hundred cows and an oxen can sit easily or the produce of which was sufficient to support a Brāhmaṇ for a year or which is two-thirds of a Brahmadāva niyartana. According to him the area of Brahmadāva niyartana was almost equal to an acre. It means that Gōvinākara matter was equal to 2/3rd of an acre.

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1. Ibid., II, XI (11). No. 178
2. S.I.I, XI (11). No. 169
3. E.I. XVI. No. 81.
4. S.I.I, XI (11). No. 155
5. Ibid., No. 189
7. S.I.I, IX (1). No. 239
Thus it seems that matter would not be as big an area as 9 acres as made out by Kundangar but might be equal to an area covered by cow’s hide as explained before, say equal to two-thirds an acre or so, sufficient to feed one individual. An inscription from Ahur records the grant of an area of land by Bommannagouda, Nalprabhu, as much as his horse was able to go round driven at full speed.  

(2) Kamba—Also known as kamma, kamba was quite popular as a unit of land measure in all parts of Karnataka even in areas where matter was not common. It appears to have been a subdivision of both matter and assa for it is found used in both connections. It was again a common measure for all types of land—dry, wet and garden. Generally, kamma are found in units of ton and it is agreed by scholars that 100 kamma make one matter. If the above calculation is followed, a kamma of land should normally measure 1.150 of an acre or 32 sq. yds.

9. S. I. I, XIX(ii). No. 195
10. Pan Nath S. E. C. A. I, p. 80, 82-83. Mrvartana according to table on page 80, is equal to 520 x 40 = 4800 sq. yds. In acre is equal to 4840 sq. yds.

1. Matter = 2800 x 2/3 = 3800 sq. yds.
2. E. L. V, 882.
3. E. C. VII, G. 1.No, 53 3a
4. Ibid., No. 53
5. Ibid., No. 19
6. E. C, VI, Kd. No. 96
7. See Stroor, DC, Epigraphical glossary, p. 141, Ind. Epigraphy, p. 419-420 for the view that one matter = 100 kamma. See E. C, VII(i) R, No. 7 & E. C, VI, Kd. No. 45 for similar conclusions. See Murthy, KBSA, p. 394, for the view that one matter= 900 kamma. Also Yezdi, E. H. L. I, II., p. 436 for a similar conclusion. But the conclusion cannot be considered final for there are several inscriptions which lead to different views. See S. P. No. 456 p. 48 & S. I. I, IX(1), No. 345 (p.369). Calculations made on the basis of the information given in the 2 lines show that one matter equals roughly 300 kamma. It therefore seems that the standard scale was one matter= 300 kamma & that these are only regional variations which cannot be helped-
(3) **Velli** :- It refers to a unit of measure more popular in Tamilnad, also found used in some grants of Mysore as 'Velli'. It appears to have been familiar to areas of Bangalore, Coorg and Kolar districts, mainly used for measuring wet lands. Appadurai\(^1\) has come to the conclusion that one velli \(^2\) 6.8 acres of land, similar or equal to one plough-land (holai) which is placed between 5 & 6 acres, a piece of land sufficient to provide food for a kula or family.\(^3\) The use of velli in some inscriptions may be either of the two things, namely, that a unit of measure similar to velli existed already in Karnataka or it may just be a kannada equivalent of Tamil unit. Most probably the former is true for we have frequent references to velli in kannada literature.

(4) **Salage**\(^4\) Though used side by side with matter in the inscriptions of some of the districts of Hassan, Shimoga, Kadur, Mysore, Chitradurga and Tumkur, other areas of Karnataka are not familiar with it. It is found from some inscriptions that salage was used for measuring land space as well as commodities. It is not easy to make out whether, the use of the term is out of place and the correct usage should have been solage for measuring commodities. Whatever be the term used for other things, salage or solage was used for measuring land. The word salage is probably derived from the steel-rod or steel rods or chain used for measuring land (sali\(^2\) by surveyor\(^5\). It was applied for all

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1. E.C, IV(11), Gu.Nos. 37 & 72
2. E.C & I, II, App. iv b. According to him 576 sq.ft = 1 kuli, 100 kuli = 1 kam, 5 kuli=1 velli (p.785) Pran Nath arrives at a similar conclusion namely that lvelli= 6.6 acres. See SESC, p. 85, Table VIII.
3. Even today about 5 to 6 acres is considered as an economic holding.
4. See Sahotra S.F.L V, II, glos . p.457. It seems from the interpretation of the ins. quoted by the author that salage was used both as a unit of measuring space & grain.
typos of land, mostly wet-lands. The rods used for measuring salage have also varied.

(5). Plough Land:— It was a term of rare occurrence found in inscriptions of Heggadadavankota Taluk, Mysore district. Probably it formed the last remnants of an ancient measure of land going out of use. It referred to the area of land which could be tilled with plough on a single day. Originally it might have indicated an area of land that could be cultivated by a pair of bullocks in a year. One plough land may roughly be taken as equal to 5 or 6 acres sufficient to provide food for a family and as seen before it was the same as velli.

(6). Avartana:— Again a very ancient unit of measure, it appears to have been very sparingly used only in copper-plate inscriptions and generally in sanskrit records of the time. Inscriptions of Śiśnārasa and Yādavaś are found to contain the measure named. A detailed treatment of avartana is not necessary because it has been considered before in one connection or the other.

(7). Kuli:— Mostly found in Tamil records. It seems to have been popular in districts of Mysore, Kolar, Kadur Tumkur and

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5. E.C., IV(iii), Kr. No. 63—‘Bhattanālīga mūru kela mūru...’
6. Soltore derives the word from salage, a javalin.
1. E.C., VI, Ed. No. 2, 34, 76 & 90, in some of the above instances salage has been used for wet and matter for dry lands.
2. E.C., VI, CM. No. 137.
3. E.C., IV(ii), Rs. Nos. 7 & 18.
5. E.I., XXXII, No. 6.
6. E.I., XXXIV, No. 7.
7. See Sirca, Indian Epigraphy, p. 407, for details. See Pran Nath SECAL, p. 85 for the view that a nivartana is almost equal to an acre.
Dangelore. Generally they are in units of 100, extending as far as 2500 kuli. These lands are measured by rods which are not of uniform length. It was apparently a unit of measure prevalent in Tamilnad and introduced by Cholas though the idea of kuli is not now to Karnatak. Kuli also means a pit for planting areca-nut plantation in areas rich in areca growth. According to Appadorai, 1 kuli = 576 sq. feet, though in some areas it measured 144 sq. ft. The measuring rods varied from 18 to 22 spans.

(3). Bhumi or Manna:– Some inscriptions refer to mannu as if it were a unit of measurement. For instance, an inscription of 1238 belonging to Viraballiala speaks of the grant of 500 mannu. Melty refers to a grant in North India which records a gift of 800 Bhumi to a corporation of 1000 Brahmans and he concludes that the area of bhumi was quite small, appreciably less than an acre.

Among the other units of land measure mention may be made of such units as vatalu bhumi, shettje, puttala mannu, sivane, minasa, hoda, and sinda.

There are a number of inscriptions which indicate the measurements of land by its sowing capacity, usually either kolasa, khandiya, madu or sodeva. Of these, which are practically found

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1. E.C. X (1). MB. No. 108
3. E.C., IX (11). A. No. 59; E.C., XI (11), Sh. No. 158
6. E.C., IX (11). H. No. 100
7. Ibid.; No. 53
10. Ibid.; No. 55
11. S.I. IX (11), No. 118
13. E.C. V (II) A. No. 69
used in all parts of Karnataka, khanduga appears to have differing units of measure. We hear of Rājamāna khanduga and usually associated with wet-land. It is not very easy to arrive at the area of land connoted by the sowing capacity. First, because the productive capacity of the land differs from region to region; second, the exact measure of khanduga differs, and so also whether the figures mentioned refer to sowing capacity or transplanted capacity. Some inscriptions are very clear. They refer to sowing capacity or mitiyvari janīna while others are silent.

There is a record which appears to give clue to the area of land indicated by a khanduga. It records the grant of 1000 kulis, approximating to 10 khandugas of wet land; also 500 kulis for 5 khandugas and 4000 kulis for 2 khandugas of dry land. As we know already the term kuli was familiar in parts of Mysore district as a unit of measure and one kuli = 576 sq.ft. If we make a rough calculation, 1 khanduga = 100 kulis or 576,000/9 = 6400 sq.yds.

which is equal to 6400/4840 i.e., about 1.3 acre of land. and 1000 kulis will be equal to 13 acres or so. This may equally stand for a land of transplanted crops. In the case of dry lands however, khanduga had a different interpretation for there it is mentioned that 2 khandugas would approximate 4000 kulis, in other words, 1 khanduga = 2000 kulis or as much as 26 acres. The above inscription seems to give clue to approximately correct solution. Nothing

1. E C, XII, 31, No. 33.
2. SI, IX(1), No. 91-likkhanduga gadde.
3. E C, XV(II), Ch. No. 95 for text.
4. See Pran Nath B E C A I, p. 84, for a different view. According to him about 14 kolas or 12.5 acres will be sufficient to sow an acre of land. If khanduga is 150 score sowing capacity land is to be secured it will be equal to 13.5 acres. Cf. Celsius S P L V, II, gadas. p.442, who refers to khanduga as a land.
precise can be said for the simple reason that khadduga itself is an elusive concept and we have no definite idea as to what exactly it stands for.

The problem is the same regarding kolage which generally is found mentioned in the records of the time. As discussed before, if 1/2 kolage or 12 scers are sufficient to sow an acre of land, normally 5 or 10 kolages of land are granted. This comes to 3 and 1/3rd acres or 6 2/3 acres just sufficient to maintain a family. Lastly pade is used in inscriptions from North and South Canara.¹

Linear Measures:— We can conclude this sub-section by making reference to various measures of length used in measuring land. It should be mentioned at the outset that no uniform or standard scale of measurement existed and in the very same area two or more types of measures adopted.

A study of the table leads to the following important conclusions:—

1. The measuring rods varied in length from as small a pace as 3 sāgu to as long a distance as 64 sāgu. In some cases the term metry appears and the measures were either 36, 44, 110 metry, so far as available evidence goes. It is not possible to discover any uniform principle underlying the fixation of such units. Appadurai has given a suggestion that the imposition of taxes had some measure requiring 64000 sq. yds. of dry and 10000 of wet land. The calculation made above is not very far from the opinions of the authors. It is quite likely that there were regional variations. See also Yasdari E.H.D., I, p. 458 — according to Kantesari, khadduga sowing capacity in Madras measure = 135 1/3 scers.

¹ K I, III, No. 44, 1940-41
² See appendix A to the chapter for a tabular analysis of the different measures.
bearing on such fixations. One may conclude by making the ob-
ervation that wherever the length of the spans was relatively
more than in the other regions, the object appears to have been
to make the tax less burdensome than in others. Or to put it
the other way, the rich and prosperous regions had a measure
with less number of spans than a relatively backward area for
purposes of assessment. In fact, this gives a clue to the atti-
tude of the rulers to their subjects. For instance, in the ex-
ample quoted before, Chālukya Vikramāditya VI allowed a rod of
28 spans in one region and 35 spans in another and in two dif-
cerent years. Evidently, he taxed the people of one region less
than the people in another. If we take the rods adopted by the
Chōlas in parts occupied by them generally, the spans were 12, 16,
18 and 22, while in areas ruled over by Chālukyas and śvēṣṭās
it ranged between 22 and 64, which leads to an important conclu-
sion that in occupied areas there was over-assessment of lands than
in others.

(2). There were hiriyā and kiriya rods. The rods were
named after either dynasties (gangarāja), kings (bandhujaṇa cintā-
mai gale), gods (mānipājyāyare gale), villages (hattiyamattār gale),
dynastic symbols (bārunda or handiya galo) or communities (bārunda-
koḷ). Sometimes they were merely entitled as one recognized by
the king or Rājamāna ganda or indicated specified units of mea-

1. See Appadorai E C S T. II, p. 405 for instance. In Karnāśa
we find rods named after Vikramāditya VI namely 28 gāruṇḍ I I.
XX, No. 69) and 35 gāruṇḍ (E I XIII, No. 37c).
2. Appadorai, E C S II, p. 406-'18 spans at Nelamangala, 18
spans at Muḷbāgal, 46 spans at Rassan, 64 stops at Bīḷūr and
110 at Tunkur).
3. See Yazdani, E H D, I, p. 438 - according to KANsastri, it
represents a standardised measure.
measure such as kōladā, seat of the bullock, a common unit of measure in Tamilnad, ottāsakale (one shoulder limb measure) or after the people of a region, such as tambola kōl after tamila.

(3). There are expressions such as māladikkida bāchividigala prefixed to the name of the pole. It may just indicate that it has been certified by the Royal officers as to its genuineness or standard. Sometimes, the term akō hāḻuṇētadakai or inferior standard measure and uttama māṇikēvāra kōl are used. It only means that fabrication was popular or there was scope for certain false measures being put into use. To avoid such māmpsau moiews and to infuse confidence in the people this precaution was taken.

(4). Lastly, it remains to consider as to what exactly is the modern equivalent of gēnu, māṭṭu, māryē etc., which are used. D G Sircar distinguishes between kai or hasta (forearm) and gēnu or hand and kōlu (foot). According to Appadorai’s table:

\begin{align*}
12 \text{ angulas} & = 1 \text{ gēnu} \\
4 \text{ gēnu} & = 1 \text{ hasta} \\
4 \text{ hasta} & = 1 \text{ donda} \end{align*}

Taking 4 angulas as equal to 3 inches, as for the calculations of Pron Math, the following are the results:

\begin{align*}
1 \text{ gēnu} & = 9 \text{ inches} \\
36 \text{ inches} & = 1 \text{ hasta} \\
144 \text{ inches} & = 1 \text{ donda}
\end{align*}

This is almost similar to Kautilya’s treatment of hasta according to which 1 hasta = 54 angulas or 40\(\frac{1}{4}\) inches. According to

2. B E C A I, p. 79.
3. Ibid., p. 90.
Pran Nath, the measure 56 angulas per hasta was current in North India up to Muslim conquest.\(^1\) We often hear of śripāda or Kālaśi. According to Kautiliya, as worked out by Pran Nath, one pāda = 14 angulas or 10.5 inches, or according to Mahādeva, 15 angulas or 11.25 inches. Kāliya calculates that a pāda was a little more than a foot.

Lastly, māru, which according to Kumāngār is equal to 2 yards, 1.72 inches which can also be cross verified. It is double hasta (36 in. x 2). This is evident because while measuring māru one generally stretches the 2 arms to full arms length and measures the object across the chest, hence māru.

Houses or house-sites were usually measured by linear measure kai or hasta. The dimensions of the sites granted varied from place to place and generally longer lengthwise. To take some instances, an inscription from Maddūr records the grant of 3 sites - 6 cubits breadth x 20 cubits length; 10 cubits breadth x 20 cubits length and 12 cubits breadth x 30 cubits length. If we try to speak in terms of modern equivalent at the rate of 36 in. per cubit, the first site would measure 196 in. x 720 in. or 16.1/3 ft. x 60 ft; the second 396 in. x 720 in. or 33 ft x 60 ft, and the third 432 in. x 1080 in. or 36 ft x 90 ft, measures which are within the realm of practical politics.

In other regions also sites measure almost similarly.\(^3\) Sometimes the same rods were used for measuring house sites as in the case of land. Thus, an inscription from İbnuswād states

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1. See S E C A L, p. 81.
2. Ibid., p. 79.
that a house-site was measured with a gaja of 30 saha. It can, therefore, be concluded that house sites were either big-sized medium or small-sized and generally rectangular.

B. Commodities:— The various articles which either measured weighed or counted. The study could be subdivided into those weighments connected with (a) food-grains (b) oil (c) spices (d) dairy-products (e) apothecary's requirements and (f) other commodities like Muggah. Under each of these, it is necessary to consider any regional peculiarities.

(a) Food-Grains:— Food-grains consisted of rice, paddy, jowar, wheat etc. Of these paddy which was the common crop all over was generally measured and except in parts which were influenced by famine, in all other places, the traditional measures namely sottiga (spoon), salaga or sollaga, bale, maña & kolaga were in use. Sometimes sero (Hassan district) adda salaga (probably salage with its top filled to the brim), tara (unidentified) were in use. In districts of Bangalore, Mysore and Kolar, alakku, nadi, padi, kurrupi, marakki, padakk, tuip and kola were current. In parts of North and South Canara the use of müde and khanduga is heard of. Jowar was also measured in the same way.

(b) Oil:— Oil a very essential commodity of common consumption were measured. The usual measures were solsiga, sottiga or sottiga, soutsa, perhaps spoon, salaga or sollaga, bale, maña.

1. I 4, 19. No. 390
2. Even now in North Canara müde, a sort of a bag prepared out of straw are made of two varieties, i.e., khanduga müde (20
vāna and kolaga etc., apart from this, such measures as śāhāraśā
śiddāna clakka bāldan, kōda, siddīga and sengādi are heard of. It is interesting to notice that inscriptions from Banga­
lore, Kolar and Mysore which speak of Tamil measures in respect
of paddy, are silent here.

(c) Spices: These include śūga, sesame, menthva, jeeva,
sabjae and kundī seeds. Those were measured and of the few
measures used māna, apalage and vāna are found.

(d) Dairy products: They include milk, curds and ghee
which were generally objects of measurements. The various
units of measurement for milk were halle, māna, kolaga while
for curds besides the above, ppal, apalage, nāli and wri, in
Bangalore district were current. Ghee was generally measured,
and the units of measure practically covered everything from
the smallest to the largest. It is surprising to note that
butter was measured instead of being weighed, kolaga and
apolage being the units of measure.9

(e) Apothecary's requirements refer to dhāla, badramustā,
which were weighed.

(f) Other commodities included pulses like toor-dhall,
green-grain and beans which were measured, the units being the
same as for paddy. Under the same group may be included salt

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See also K.I. V no. 16 pgs 6-13 for
kolagas) and māna mūde (16 kolagas). The use of the unit Māttī
ta. Sūlaśiga was a smaller measure than māttī.

1. E.C., XII, P. 58.
2. Ibid., No. 50.
4. E.C. XII, 4 A
5. E.B., III(1), M. No. 70.
(baila, meha, hari, kolage), poppor (generally measured except in Shimoga district where it was weighed), jaggery (sometimes counted) and tijh seeds. There were a number of commodities which were weighed. These were turmeric (phala), sugar (phala) green and dry-ginger, bavals(tola), camphor (phala) metal objects, precious metals, musk, saffron, sandal and cardamom (sometimes measured). Some were by counting which included coconuts, areca, betel leaves dry and fresh-fruits.

Calculations:- It remains for us to consider here the scale of weights and measures. The inscriptions throw some light on this aspect of the question in so far as they indicate the order of the size, though the scales are not easily discernable.

On the evidence of the inscriptions, a rough idea of the various units of measure, according to variations in size, can be attempted (biggest to smallest):

(1). Khardiga = 20 Kolagas
(2). Koda = ?
(3). Salage = ?
(4). Kolaga = 4 ballas (72 tolas or 840.81 grams)

1. See E.C., VI, Tr. No. 80 & 865 for the use of the terms hidi kaulage for counting betel leaves.
2. Appadorai has the following table from Rajaditya's Wavabara Ganita reproduced for ready reference:

<table>
<thead>
<tr>
<th>20 ballas</th>
<th>1 tola</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 gilda</td>
<td>1 salage</td>
</tr>
<tr>
<td>4 pallage</td>
<td>1 balla</td>
</tr>
<tr>
<td>4 meha</td>
<td>1 balle</td>
</tr>
<tr>
<td>4 balle</td>
<td>1 Kolage</td>
</tr>
</tbody>
</table>

30 Kolaga = 1 khardiga - ECSI, p. 763.

(5). Siddiga = 28 to 36 tolas (326.59 - 419.90 gms.)
(6). Balia = 4 måna (18 tolas or 809.9 gms).
(7). Måna = 4½ tolas
(8). Soliga = 7
(9). Siddiga = ½ soliga (?) or salliga (?) if capacity
(10). Sora or musti = 1/5th pala
(11). Siddiga
(12). Soliga
(13). Dhara (drop)

In areas of Bangalore, Mysore and Kolar districts the measures used were different. Appadorai establishes relationship between different units. An inscription from Kolar district dated 1071 tends to throw light on the weights. It confirms the calculations of Appadorai.

Control over weights and measures: - Literary works like Pampa Bhrathra and Samova pariksha, condemn those who practise deception in weightment. Similarly, an inscription of 800 has it on record that an officer practised deception while measuring land and the king thereupon had it remeasured. These indicate that the king must have checked such frauds.

6. Sec E I, IX, No. 4A. p.35, fn.8
1. Sec E I, IX, No. 4A. p.35, fn.8
3. Sec Mahalingam IV, Economic life in Vilayanagar p.188 & Saleriors SPLV, II, gloss. p.439. The ref. in the inscription is to a measure of capacity = 1/16th part of a bhar a (1½ tolas) and not dry measure.
4. See Saleriors SPLV, II, p.439. for Siddiga = 8 seers or 8 salliges which is not the measure employed here.
5. Drına another measure of capacity either the same as adhake or equal to 4 adhakes or 1/16th part of a bhar a or 32 to 64 seers. See Saleriors SPLV, II, p. 439.
3. Taxation

Inscriptions form the main source of study for outlining the system of taxation in Karnataka, even as in the other parts of South India. An attempt will be made in the following pages to get at the various taxes, sectorwise and to explain the implications of most of them. For this purpose, the study of taxes may be sub-divided into the following categories based on the source of collection:

A. Agriculture and Livestock,
B. Industry,
C. Commerce,
D. Professions and
E. Others.

The exemptions, remissions, fines, fees and contribution will be taken up subsequently for treatment.

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one pala equals 5/4 sevindu or 5 sevindu = 4 pala or 1/5th. tola.
(see S A C A, tab. 5 facing page 77, 7th col. 1st. item.)

The chart of Appadorai can be redrawn thus:

- 5 sevindu = 1 alakku (9.33 gms)
- 2 alakku = 1 vilakku (4.664 gms)
- 2 vilakku = 1 tru (9.32 gms)
- 2 tru, 1 pati = 1 pedi (18.656 gms)
- 2 pedi = 1 kurtuni = 1 marakkal (149.848 gms)
- 2 kurtuni = 1 padakku (298.496 gms)
- 2 padakku = 1 tuni (596.99 gms)
- 3 tuni = 1 kalam (1 kg. 609 gms)

Appadorai ECSI, II, p. 783

7. K. C. Xl., Kl. No. 106

pass. 232 - cattiya kalasa kirudu.

1. Murthy. See P. V. Kane H. D. B., p. 184, ff. for the principles of taxation
2. See Berrett, Hvasalas, p. 193 ff. for a separate classification.
Agriculture & Livestock Taxes:

Of the various taxes, next to nothing is known about some of them, beyond their names. While it may not be necessary to take up and study each one of them separately, except a few, it is possible to categorize them.

1. Land-taxes: As immediate sources of land revenue.

Land taxes included sidhāya or fixed-rent and suvraṇa, a payment in cash and dhārvacāya, in grain. Naladuro is another, a sort of land-tax or sīko-tax and also dāsavāna or 1/10th, to which the king was entitled. There is also dātūga which is perhaps te-similar to pūtukdi, 1/10th, used in very early times. Aruvanga was a kind of another tax translated as a land-tax reduced to half on māhāya lands. Pindātōna is also a sort of death or estate-duty paid by those who succeeded to an estate of persons who died sonless. It was a kind of lump sum tax attached to any kind of payment. There appears to have been a special tax known as kumari tax, sometimes treated as synonymous with kumara nadvāna.

The two seem to be entirely different, both being levied. Kumari-kadamai seemed to have been a tax levied on those lands which was carried on kumari type of cultivation. Among the hill-tribes

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1. See for the list annexure B. to this chapter. See Darrodt, Boswell p. 195, ff. regarding land-revenue.

2. See Surthy, K S A, p. 370. See Salotore L-LV, II, glossary. page 266. According to Salotore it refers to grant of rent-free land given for building or repairing a tank on condition that he pays 1/10th or a small share of the produce. According to others, 9/10ths. A close examination of the record (M A R, 1931, No. 43, Ch.) leads to the conclusion that dāsavāna was not a tax at all, but that it was just 1/10th of the land or 1/10th of the tax, allotted for its repair, called bittuvāta. Even Surthy feels that the term gradually acquired an ordinary meaning of 1/10th portion. See kītā, no. 3, kītā, 140-41 for a similar instance - "Galaśa Sunkada panchattara"
it was levied and collected in kind. Taxes on wet and garden lands known as barmpika and bolodore respectively may also be included here. There is also mālāṇu or mālāva which appear to be similar to māloyāna of Tāmil and upārikāra of North Indian records, extra taxes charged ever and above the land revenue. The one tax which deserves a close study is siddāya. It has found a frequent mention in inscriptions. Very often, a distinction is made between first or moolusiddāya and regular ones. It means that there were probably several assessments and when land was assessed for the first time after being brought into cultivation, the payment made was the first or moolusiddāya. Siddāva was made, sometimes, for the whole place or village. Remissions of the rent are also heard of, generally, made by the king in favour of Gods on application of responsible officers. The fixed-rent or siddāva was therefore an annual levy collected or paid to the Brāhmaṇa who maintained a record or statement. The king's government also apportioned or remitted the taxes. It is clear from another record that land could be sold or mortgaged to realize siddāva. The term siddāva appears to have been used in a general sense also to mean any fixed payment. For instance, all the pilgrims at Benares were required to pay siddāva to Turug-kas. The above discussion leads us to the conclusion that siddāva

2. Sān E C. X(I), Ar. No. 57 for the use of term siddāva in Tāmil.
4. F C. W (11), On. No. 211-fixed rent for Navile—500 gadyānas
5. F C. V (11), Ak. No. 187 and ibid., On. No. 172
6. Ibid., Bl. No. 140.
7. Ibid., No. 170
8. Ibid., No. 172
was a periodical payment fixed in amount leviable on land, houses and villages and sometimes as a general tax. Taxes were paid sometimes in three instalments. The siddāva was raised progressively and periodically notified. The inscriptions throw some light on the rate of siddāva but unfortunately the data is so meagre that it is hazardous to come to any definite conclusion. The rates varied widely, the minimum being 2 sadyāṇas and the maximum 1200 sadyāṇas. The normal rate was 100 sadyāṇas and in very exceptional cases 350 sadyāṇas and 500 sadyāṇas.

(ii). Production Taxes:- The second group of agricultural taxes may be said to consist of lease amounts or levies such as kattuvattage and holaguttage. The term kattuvattage stands for the total amount of grain that should be paid to the landlord by the tenant who cultivates the land. Even if there is no produce or crop he has to give so much. This is sometimes distinguished from another type of guttage known as kory (i.e. half portion which the tenant has to remit to the landlord as the latter's portion). A grant of 1913 throws light on the fact that the guttage amount was progressively increased.

(iii). Processing-Taxes:- The third category of agricultural taxes may be said to refer to agricultural processing-taxas such as kalavatia (share of the grain at threshing-floor), thippasunna, māttuva, koaruvana, urāna, adugabba, vettuva, glodara and tepadera. Some of these terms are self-explanatory. Koaruvana may refer to a hire-tax levied at the time of preparing the wet-land before sowing. It is still the practice in K

1. A R I E, 1951-52, No. 3.
2. E C, IV (ii), Ch. No. 39.
Karnataka of to-day for labourers or riots to stand in knee-deep water and crush the earth with their feet to make it soft for transplantation. **Netuvaata** refers to digging-tax. **Adigama** stands for a tax on firewood\(^1\). **Bedore**, naturally, indicates a tax on preparation of jaggery or prepared-sugar.

(iv) **Livestock Levies:** The fourth group includes taxes on livestock such as **pulvar**, **nallayu**, **nellettu**, **kottagedore**, **addore**, **thanadore**, **bandgedere** (hay-stock tax) **okkaladore** and **bedore** or **balaavana**. All these refer to taxes on livestock or cattle-shed. The only tax of controversy is about **bedore** or **balaavana**. Some have translated it doubtfully as child-tax. The inscription, under study, refers to the collection of **balaavana** by the great master of Robes from jolevas of Sugatavalli, in Rassan district.\(^2\) It can be concluded, from literary and epigraphical evidences, that **balaavana** is a kind of cattle-tax and not child-tax.\(^3\)

(v) **Miscellaneous:** The next category of agricultural taxes consist of miscellaneous taxes like water-tax, **somutare**, **kopasanga**, **laguvya**, **purvaasoe**, **katuvaseag**, **khana** and **bedore** (roll-tax?), **kaluba**, **hondiko vana**, **blitticollese**, **koneidore**, **katilaseoo**, **kudere**, **puruvea**, **purvea** and **ahyagata**. Some of

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3. See Murthy K & S A, p. 401 for a similar view based on the evidence of sbedasurel sarovara. Further, the above-mentioned inscription speaks to the collection of balaavana from jolevas, who inevitably followed the profession of butchers and therefore it was a tax levied on the skin of the cattle slaughtered-
them like śārasa, kāturangasa and khōna were those imposed to feed Royal officers when they came on tour, either to collect revenue or otherwise. ādēdero is perhaps similar to sālēvapa for, ādē also means a bunch of hair. āmmudare may stand for wealth-tax. āliyū according to Sāletoro, stands for a portion of produce set apart as a payment for measurement of crop. It also means damaged. If this meaning is adopted, it can be regarded as a tax to prevent destruction or to repair damages done to the crop. This meaning is also likely because śāvāva, which appears together, is translated as a tax imposed for breach of contract.

B. Industry:— Of the various taxes which need explanation, loom-tax or mājagārdo, is found mentioned frequently. It is not clear as to what is meant by smoke-tax. Perhaps it is related to some industries which used coal. For instance, smithy. It was a tax probably paid by some of them. Regarding oil-mill tax, sometimes, two such taxes are mentioned. Perhaps they refer to two categories—bullock oil-mills and tread oil-mills. Oikoludare was a tax on any group or family, either farmers or oilmen and in this case on the family of oil men. Mākolu, evidently, was a kind of tax levied on the anvil, a peculiar kind of stone used by blacksmiths and goldsmiths for making ornaments.

C. Commercial taxes:—

Commercial taxes were distinguished from all other taxes by the use of the term sūnka, suffixed to the name of the levy concerned. Such talls were levied on almost every

4. It will be discussed under commercial taxes.

commodity which was brought into a place or market for sale. If one may guess from the interpretation of the fiscal terms, it was also levied on goods which left the place. Before taking up for consideration some of the particular taxes certain general observations may be made.

(1). These tolls were levied on goods both coming into and going out of a place.

(2). A careful distinction was made between goods on the highway or melvattu and interior roads kilvattu.

(3). Every article of human consumption, besides animals were subject to toll without exception.

(4). The proceeds of these tolls were put to good use either for renovation of temple or maintenance of tanks and bridges.

A word about each one of the above points may be attempted.

(1). Import and export duty or olavatru and horavatru- It is on record that Dharmapura was established in Mysore area with the right to collect, among other things export & import dues, so also another village named Dogari or Bhogavati. Sometimes the terms olayanaka and horasunaka are used. It is clear from another inscription that territorial jurisdiction was prescribed, sometimes identified with that of a particular deity. Whatever was loaded in that area had to pay naturally a toll for being taken out. At times natural frontiers such as rivers were

1. M.A.R. 1940, No. 29, p. 150(Ng).
2. F.C. (II), in.No.194 - "Gributanathadavaralu helligalolage"
3. XIX, XIX, No. 59. B - River wardha fixed as bounty.
fixed. It was also specified as clear from another inscription, that others had no authority to collect the customs. Generally, there were several custom offices established at convenient points. While each village acted as a unit, there is also a clue to the fact that a group of villages in an area formed themselves into a sort of customs union for the purpose of collecting tolls on goods coming from all quarters and goods in transit. The tolls were levied irrespective of the places where they were taken for sale and gate passes issued for entry or exit, wherever it may be sold either in the shop street or market. Sometimes, a place like Belgaum merely served as entrepot. For instance, a nela-potty of 3/4 of pona was levied on horses coming from north and on the one that passes on to the south. Naturally, the former was levied on those which were required for local use, if we mean by nela-potty one which touches the soil or one which is landed.

(2) While it is still a matter of controversy whether mālvaṭṭe stands for high-road or superior cloth and the available information quite meagre, it cannot be denied that there did exist such a difference in the levy of customs. We even hear of mālvaṭṭe or coins on goods carried on cross-roads. It is quite possible that mālvaṭṭe was used in both senses for we hear of mālvaṭṭeya vaddarāvala sunka. Similarly kilvaṭṭe may stand

1. E C, VI, Kl. No. 169 - pararigamikāravilla
2. E C, VIII, (11) 599 999.
3. E I, XIII, No. 3A
5. Agnada highamuk. I(11), p. 180
6. S I, XX, No. 87; E C, VIII, (11), Sb. No. 387.
for both inferior-road and cloth though it is found rarely associated in the latter sense anywhere. The only guess that one can make is, that there were certain categories of goods which passed through certain towns without being taken for sale there, while there might have been the others deliberately brought for sale, the former being carried on the high-road and the latter finding entry into the town through sub-roads.

(iii). The third point refers to levy of customs on almost every article. While it is not necessary to categorise them, articles of daily consumption and luxuries like betel-leaves, arecanuts, oil, pepper, salt, grains, turmeric, cotton clothes, gold, firewood, cardamom, rubies, coined coins, coppermata, self-lower, thread, jaggery, fruit, silk, drugs, spices, ginger, saffron, onions, coriander or cummin seed, vegetables and sugar, animals like horses, elephants, bullocks, fowls, goats and cattle were taxed. Generally they were calculated on head-loads, or as carried on backs of horses, gassas, oxen, buffaloes and cart.

Consideration of Specic Commercial-Taxes:-

While it may not be necessary to consider in detail every one of the taxes either because they are self-explanatory or

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1. For instance, bolava suyka evidently was for crossing the river and the prococedes as clear from the Inscriptions were utilised for the annual repairs of the channel. K.G.III(1), Sr, 354. This differs from transport dues or sariga suyka which applies to any kind of transport by either land or water. Similarly Hiruvacunaka refers to toll on each load and when read with context it stands for tolls collected on carts and ferries loaded. The inscriptions refer to grant of dues by ferrymen of 1/10th of the customs on loads. Telsahandade suyka stands for the toll on locally produced goods—C. VII(1), S.R. Singhavattigya, according to the inscription is connected with sandies or markets—Santaya singhavattigya. suyka (K. I, XV, No. 6) Kittel says that the term Singhavattigya stands for the sound of horn of an antelope blown by jogia. Singa jogia are a common
because next to nothing is known about some of them, an attempt
will be made to elucidate some of the important ones. Of the
various tolls which need detailed treatment, haljunka or parijunka,
parjana or sahupapana sunka, avdoravuka, hikodesunka, kirukya
sunka, mule or mula sunka and nolamity are considered below.

Parijunka or as usually translated it stands for great tolls
which may have acquired that terminology either because of the
enormity of the amount or proceeds or source of tax or authority
levying it. Any way, it was a kind of general toll leviable on
any commodity without association, specifically with any one of
them. It was either protected or in charge of big officers like
Mahasamantahipati, Mahaprabhanda danapavaka, senior minister
for war which evidently means that the central government had a
watchful eye on it. It was an important source of revenue as
several grants were made out of it from time to time. It was a
toll levied on all goods like grain, betel-leaves, areca-nut,
gardens and animals like horses. It was levied only on the

feature on sandy days in India. It is usual to speak of sandies or
calling (saite kura). It was therefore a levy or toll paid for
jeedi who sanctified or inaugurated the sandies by blowing the
conchs or horn. Kuliya sunka was a toll levied on betel-leaves
probably at the producer's point calculated on the basis of kula
or tree (S I I, IX(i), No. 170) Hikayava sunka according to the
inscription was paid on ha-buffaloes, bullock and asses loaded
with leaves in any of the nadua. Either the term is the per-
version of harike or something not clear (S I I, IX(i), No. 296).
Anupasunka stands for pohty tolls.

1. Svo Murthy K S S A, p. 400. According to him it was a great
toll but he makes out a suggestion that the toll may stand for
one levied on loads or hariu. No doubt it was a toll levied
on loads but for other reasons detailed above it cannot only
mean that. Aso it appears side by side with hariu (hariya -)
S I I, IX(i), No. 170).
2. S I I, IX (i), No. 170.
purchase or sale and on goods locally produced. The proceeds of the tax were used for upkeep of taxes. Sometimes the word is used with beliya such as nornjukodo beliya the meaning of which is not clear.

Pannela sanka sometimes prefixed by agchu has been regarded as a toll levied on bowi-leaves and collected in cash.

The term vaddaravula is used either independently or with vilutta. It may stand for a cess or toll levied within the town or village based on the following derivation.

Vaddaravula sanka, = vadda + (u) rauva + vadda + (u) rauva

It may mean therefore an internal levy on superior varieties of goods produced either cotton, jute, nut or grain etc., imposed on quality goods even as luxuries of today are taxed more and separately unlike ordinary or average ones. It is quite possible that vaddaravula was also collected on goods carried on highways passing through a town or village, for sometimes, we find used expression vil-vattaya vaddaravula. Both ways it was an internal tax.

Bilkodesanka, sometimes referred to as erodina bilkodesanka evidently was an import-export duty on goods which were either

1. Sankalpadada peru sanka - C.C.XI. Dg. No. 80, I N K K. No. 12, S I I, XV. No. 104.
3. S I I, XX, No. 77 - perhaps a toll on income realised on silver.
4. Kannada nighantu. Vol I, (ii). p. 100 - The derivation is as follows- agchu + pannaya + pannaya (parna + ayas)
6. Ibid., No. 387
7. Compare I N K K. No. 12, Kundangar has translated it as tax on growing the best cotton.
8. C.C. VIII (ii). St. No. 387
brought into a town or sent out for sale, perhaps collected at the point of entrance or exit. The fact that an inscription refers to grant of free passes for a certain number of bullocks whatever might be loaded therein strengthens the view regarding the interpretation of bālako suka.\(^2\)

**Kārakula** or petty-tolls levied on goods has been interpreted by B. A. Salotore as miscellaneous petty taxes on articles or goods.\(^3\)

**Māla or mūlasunka** was in all probability, levied at the producer's end when goods were taken out for sale.

According to B. A. Salotore koda Viśa stands for allowance of viśa of grain for every bullock-load that comes into a town, paid to a person employed to check the demands of toll-keeper.

**Miscellaneous taxes:**

Of these taxes only some need explanation. About Kārāgānike an explanation has been given before and it stands for Prince's tributo. As regards bīrayana, a doubt arises whether it should not be regarded as a tax paid by bīrayaṇaṇīgas themselves for maintaining a class of warriors among them for defending the merchants in danger,\(^6\) or it was merely a soldier's tax paid by all. The latter seems to be more probable as this tax was paid by classes other than merchants as well. For instance there is sullara bīrayana.\(^7\) Hence, there is little scope for

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1. Hālu kōdu means to bid farewell or to permit leave.
3. Regarding professional taxes, see annexure to the chapter.
4. See Murthy, K. S. A., p. 401 for a similar surmise.
5. Salotore, Sā L V., XV, No. 69, Sā L V., XX, No. 299, where it is said that the carpenter, goldsmith, washerman, cobbler, holoṣa of the left together paid bīrayana of the town.
ascribing it only to merchant class - more so as it is preceded by विजय म in some inscriptions.

Kirukula and Kirulare: - A doubt has been raised whether the two are separate taxes or one and the same. There are two inscriptions which clear the doubt and it seems from a study of the inscriptions that they were two distinct ones and refer to two different kinds of taxes. According to an inscription from Lakshmēdravar, dated 1074, belonging to Bhuvanai kadalla, Kirulare included house-tax, cattle or capital-tax and so on. On the other hand, another inscription dated 1270 from Sullēri includes under Kirukula, smoke-tax, loam-tax, goat-tax, food, fodder and so on. It seems from the above that they were two different taxes.

Molabray was a garden-tax levied on garden crop. Kallavali is a word derived from Tamil kallai meaning a tax paid by those who sold spirituous liquor. If so, kallavali may mean tapping of liquor in which case kallavali is a tax on spirituous liquor at the point of tapping. Jardinere is a tax on those who worked the mines.

E. (i). Contributions:

Apart from taxes, inscriptions refer to voluntary contributions to the temples for maintenance of worship. It is not

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2. See for text. A A I, XX, No. 47, u.53-55.
5. See Murthy K S S A, p. 373. for the view that it was a tax levied on those who secured gold by sieving sand. See also ibid. fn. 94 for the quotation from Meyasena where the word is used in this sense.
necessary or desirable to treat all such contributions. But it
would be sufficient if the modes of contribution are stated.
For instance, the following:

(1). The usual practice of these traders in particular
goods was to allocate a proportion of the proceeds of the sale
either calculated in terms of money or as so much quantity of
of goods itself.

(2). The customs, officers and other revenue officers
assigned a part of their dues either for festivals or worship
in the temples.

(3). It was customary to make contributions at the time
of marriages and other social functions. Contributions were
made by both the parties.

(4). Contributions were made by artisan class at the
rate of one ḍeṣa per workshop and in kind.

(11). INDIAN FINES:—Fines, either collectively, or indi-
vidually, were levied for offences. There is an instance on re-
cord, of a collective fine levied evidently for an act of indis-
cipline on the part of the villagers. A sum of 800 ḍamī was
collected from the village of Ḍāvallī, for the villagers refused
to accept the appointment of Lakhayya as their ruler. Another
record from Kēgālī, Hadagalli taluk, refers to fines and punishments

2. M A R, 1941, No. 9, E.C., XII, Gb. No. 34.
3. M A R, 1941, No. 9, M.I., XV, No. 112
4. M A R, 1929, No. 60 (6k)
5. S I, XIX, No. 48, p. 35, 41. Leather workers presented a pair
of slippers every 6 months.
for individual offenses. For instance, in the case of those who violated the customs or committed adultery and other offenses, the nose of women guilty of adultery was to be cut off, and the adulterer put to death. Offenses such as causing wounds by beating was to be punished by a fine of 3 manag. The fines could be as high as 12 manag in some cases.

6. Critical Review:

It remains to consider the important question whether taxation was heavy or not. It has been held by some of the critics that taxation was heavy to a certain extent. It is necessary to approach the question from the following points of view:

(a) Number and nature of taxes.
(b) Rates of taxation.
(c) Incidence.
(d) Redistribution effect.
(e) Exemptions and Remissions.
(f) Other points.

As regards the first one, it is true that one is baffled by the number of taxes or cesses, levies, contributions, and so on, right from the point of production to that of sale. But it should be remembered that as will be seen below, exemptions and Remissions were equally considerable. The number of taxes alone

1. S I I, IX (i), No. 77. p. 47 ff. for the text: L I I (ii) No. 127.
2. See for details Murthy K S S A, F. 405-406. Cf. also Yezzard E II D I. (vi), p. 410. ff. for the views of K A N Sastri, regarding the fairness and equity of the nature of the general burden of impost. See Mahalingam TV, S I I, p. 195 for the view that there were periods of heavy taxation and suffering in South India but it was not uniformly and continuously heavy and oppressive. Further, though the items were numerous the total value did not amount to much.
should not lead to the conclusion of the heavy nature of taxes without looking into the purpose or purposes for which they were levied. As regards the nature of taxes, it is difficult to say which of them are indirect or direct by looking at their names unless we are sure whether the particular tax could be shifted or not. Even today one cannot say with certainty whether a particular tax can or cannot be shifted. It all depends upon experience and practice. It would be rather hazardous to read modern inas into medieval system of taxation and to say that some of them were direct and hence appear heavy and so on. 1

Regarding the rates of taxation, there are innumerable inscriptions which throw sufficient light on this point. The rates were more nominal and often negligible. For instance, according to an inscription of 1105 of Chāluṣya Vikramāditya VI, from Yavā, the merchants allotted on the sales of aracanuts an impost of 5 aracanuta a gold piece and 25 leaves on each load. 2 In some cases, the contribution would work out to one panna for a lakh of aracanuts when marriages took place in the houses, contribution of one hēga was paid. Another inscription points out that the contributions were in proportion to income. 3 A more detailed information is available from a Śilahāra inscription of Ganiṃaditya of Karad. 4

5. H XV, No. 41, pp. 30-35 - aracanut 50 on load, 25 on half-load, 5 on hēga; betel-leaves 150 on load, 50 on head-load, 25 on hēga and so on.
While the point of incidence cannot be easily settled, the redistributive offset of taxation can be seen in the enormous building activity, temples, public works and some social security measures and grants to individual temples undertaken during the period of study. As regards exemption and reductions we have seen a part of it under agriculture. Besides, the fact that lands were either individually or collectively granted to Brahmins, temples, and others who showed favour at many things, the right of collecting taxes was invariably made over to temples. Sometimes, there was also apportionment of taxes or voluntary contributions made. Exemptions, besides those on land given as manya or as gifts of taxes was quite frequent. For instance, an inscription of 1116 records that the Mahabharata of Vengola exempted 5 tala of some taxes. To give another instance, an inscription of 1125 of Tribhuvanamalla exempted those who lived in God’s town from manura-tax.

Besides exemption, remissions or reductions were also there. For instance, it is recorded in the inscription of 1290 that on a petition being made by the inhabitants of Ilaiapakkanadu to the effect that provisions made for expenses for festival of God Sokkaperumal of Tambulur were inadequate, Huyselevira-Ramanatha remitted 10% of the amount paid by the village. A similar instance is recorded in another inscription of 1310 from Holamaiyur belonging to Huyseala Ballalalar. Individuals

1. Those will be taken up for discussion later.
2. E.G., XII, Pq., No. 55, p. 376.
4. S.I. I, IX (1). Pq. 195
6. E.G., IX, Bn., No. 11
7. E.G., XV, IR. No. 59
also got remissions. For instance, a copper-plate inscription of 1252 of Ankor records that Singayya out of 350 gadyanag finally fixed by the 14th century, obtained a remission of 50 gadyanag in the first instance and subsequently 40 gadyanag, total 70 gadyanag and the rent finally payable fixed at 280 gadyanag. Remissions were made generally on application. Similarly there is a very interesting instance of a reduction in the rate of taxation brought about by the king himself when the representatives of tambulangan 1000 and the Mahāyana of Dāiguli approached the king personally.

Exemptions applied not merely to lands and land-tax as seen before. Even industries and industrial goods were allowed exemptions. It is recorded in one of the Yadura inscriptions, dated 1278 of Yadura Mahadāva, that no tax was to be collected on cloth produced in looms of the town, paddy from the lands of the Goddess and all the property of God, if sold, and on whatever things sold in the religious celebration of Goddess.

An attempt is made to justify the stand of heavy taxation by inviting attention to some of the statements made at the end of inscriptions such as the one that those who ask for taxes are chandasa and so on. These are merely conventional sayings and warnings which need not be taken seriously. The fact that over and above the taxed and impositions, all sections of the public, including officers voluntarily assigned part of their income or taxes shows that sufficient amount was left for the payer.
after being taxed, for meeting such commitments and that
the taxable capacity had not been reached. The charge of
continuous and uniformly heavy and oppressive taxation can-
not therefore be justified.

1 & 2. There are one or two exceptional cases of an unjust rise
in the rates of taxation, as the one noticed above.
(§ 0 I, IX(1) No. 76.) There are also some known in-
stances of oppression by individual officers and go-
vorners for non-payment of taxes. (B K I, I(1) No. 36
and 9(2); E C, VIII, Sb, No. 73) But in such cases
they were rectified by the emperor if and when brought
to his notice. But such cases were rare. See Murthy,
# Annexure ‘A’ - List of Measures:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Measure</th>
<th>No. of Spans</th>
<th>Modern Equivalent</th>
<th>Unit to which Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gale</td>
<td>44 matsu</td>
<td></td>
<td>Letter</td>
</tr>
<tr>
<td>2</td>
<td>Gopa gale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Kaschariya gale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mulvandada gale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Gunigaon gale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Poriunda gale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Utara Langkodwara</td>
<td></td>
<td></td>
<td>Letter &amp; Nivartana</td>
</tr>
<tr>
<td>8</td>
<td>Rama Mano danda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Hukolvana kol</td>
<td>13 goju</td>
<td>9% ft.</td>
<td>Matter</td>
</tr>
<tr>
<td>10</td>
<td>Hariva godimbada kol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Bharanada kol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Bachevidiya kol</td>
<td>36 goju</td>
<td>27 ft.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Jangiara kol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Gale</td>
<td>32 goju</td>
<td>24 ft.</td>
<td>Matter</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>38 goju</td>
<td>30 ft.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>18 goju</td>
<td>13% ft.</td>
<td>Matter&amp;Kuli</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>24 goju</td>
<td>18 ft.</td>
<td>Matter</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>20 goju</td>
<td>21 ft.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>25 goju</td>
<td>24% ft.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Godimbada kol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Dungiya gale</td>
<td>12 poles</td>
<td>9 ft.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Kalaqi</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. **Conversion chart:**
   - 36 in. = 1 hasta
   - 144 in. = 1 danda
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of the measure.</th>
<th>No. of spans.</th>
<th>Modern unit to Ecut. which used.</th>
</tr>
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<tbody>
<tr>
<td>23.</td>
<td>Kökö</td>
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<td>7 ft. Matter</td>
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<tr>
<td>24.</td>
<td>Kuratskunyakööl</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>25.</td>
<td>Malopon espresso</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>26.</td>
<td>Parva völ</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>27.</td>
<td>Bucudlo's pole</td>
<td>18 spans</td>
<td>13 ft. Matter</td>
</tr>
<tr>
<td>28.</td>
<td>Orantamallia's völ</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>29.</td>
<td>Towola köl</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>30.</td>
<td>Kiriyu köl</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>31.</td>
<td>Kööl</td>
<td>3 gānu</td>
<td>2 ft. Matter</td>
</tr>
<tr>
<td>32.</td>
<td>Kööliya solo</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>33.</td>
<td>Gala</td>
<td>56 gānu</td>
<td>42 ft.</td>
</tr>
<tr>
<td>34.</td>
<td>Gala</td>
<td>44 gānu</td>
<td>33 ft.</td>
</tr>
<tr>
<td>35.</td>
<td>Gala</td>
<td>64 gānu</td>
<td>48 ft.</td>
</tr>
<tr>
<td>36.</td>
<td>Gala</td>
<td>60 gānu</td>
<td>45 ft.</td>
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<td>37.</td>
<td>Gala</td>
<td>40 gānu</td>
<td>30 ft.</td>
</tr>
<tr>
<td>38.</td>
<td>Kööl</td>
<td>22 adl</td>
<td>Kull.</td>
</tr>
<tr>
<td>39.</td>
<td>Kööl</td>
<td>16 adl</td>
<td>-</td>
</tr>
<tr>
<td>40.</td>
<td>Gala</td>
<td>48 gānu</td>
<td>36 ft. Ilvertana</td>
</tr>
<tr>
<td>41.</td>
<td>Ročividiya Gala</td>
<td>48 gānu</td>
<td>36 ft.</td>
</tr>
<tr>
<td>42.</td>
<td>Ot tölga gala</td>
<td>4 mārus</td>
<td>24 ft. Komba</td>
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<tr>
<td>43.</td>
<td>Wilisačaka köl</td>
<td>-</td>
<td>-</td>
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<tr>
<td>44.</td>
<td>Pmoponamovedaga</td>
<td>-</td>
<td>Komba</td>
</tr>
<tr>
<td>45.</td>
<td>Rešimbona köl</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>46.</td>
<td>Gala</td>
<td>50 gānu</td>
<td>371/4 ft.</td>
</tr>
<tr>
<td>47.</td>
<td>Purvarela solo</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>48.</td>
<td>Olana köl</td>
<td>-</td>
<td>-</td>
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<td>Name of the measure, No. of spans</td>
<td>Modern Unit Equiv.</td>
<td>Unit to which used</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------</td>
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<tr>
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</tr>
<tr>
<td>49.</td>
<td>Pakulane chintamani kōl.</td>
<td>23 gānu</td>
<td>21 ft.</td>
</tr>
<tr>
<td>50.</td>
<td>Dānevinādana gāmāla</td>
<td>35 gānu</td>
<td>33½ ft.</td>
</tr>
<tr>
<td>51.</td>
<td>Hattivatīr gāmāla</td>
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<td></td>
</tr>
<tr>
<td>52.</td>
<td>1panīya gāmāba</td>
<td>40 gānu</td>
<td>30 ft.</td>
</tr>
<tr>
<td>53.</td>
<td>Kṛyva kōl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54.</td>
<td>Chāloresingana kōl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55.</td>
<td>Aṃgasevanahirīya kōl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56.</td>
<td>Narāṇḍra pārada hirīva kōl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57.</td>
<td>Ankaśerana gāmāba</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58.</td>
<td>Gōdikida bachivindiva kōl</td>
<td>35-gānu</td>
<td>24½ ft.</td>
</tr>
<tr>
<td>59.</td>
<td>Gala</td>
<td>27 gānu</td>
<td>20½ ft.</td>
</tr>
<tr>
<td>60.</td>
<td>Dānevinādana gāmāla</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61.</td>
<td>Mottina</td>
<td>110 mottu</td>
<td></td>
</tr>
<tr>
<td>62.</td>
<td>Māravandi gāmāla</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63.</td>
<td>Ottuabbilam gāmāla</td>
<td>9 fowlor's yard.</td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>Kāda gāmāla</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>65.</td>
<td>Prohormelle kōl</td>
<td>36 mottu</td>
<td></td>
</tr>
<tr>
<td>66.</td>
<td>Kauvākēvēra kōl</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEXURE 'B' - LIST OF TAXES (Order of Importance)

(a). Agricultural Taxes:-

(1) Eirkul (water-tax)
(2) Sidangle (fixed land-revenue)
(3) Katlarse (perhaps similar to pattadu)
(4) Kattwatase (contract amount)
(5) Findaung (lumpsum payment)
(6) Holcutfase (similar to serial No. 4)
(7) Suvarneya (cash-tax)
(8) Kolaweta (share of grain at threshing-floor)
(9) Tiprunka (manure-tax)
(10) Somutera (wealth-tax)
(11) Tepsonuka (ferry-dues)
(12) Pannaya (total-leaves tax)
(13) Gammadage tara (tax on a kind of wet-land)
(14) Krupapa (plough-tax)
(15) Kho ba sacc (Elephant-joy)
(16) Kalamaya sa (horse levy)
(17) Khano (fodder-tax)
(18) Phordi (cart-tax)
(19) Jododka (cattle tax)
(20) Shidiva

2. E.C.V (11), Cn. No. 29
3. Ibid., Bl. No.17
4. Ibid., Cn. No. 211
5. Ibid., Hn. No. 156
6. Ibid., Bl. No. 141
7. Ibid. Bl. No. 171
8. Ibid., Bl. No. 178
9. Ibid., Bl. No. 53
10. Ibid., Bl. No. 129
11-20. Ibid., Hn. No. 139
(21). Pulvori (fodder-tax)
(22). Nellavu polettu (good cow-tax)
(23). Kalu or kalhu
(24). Kandika yaea
(25). Purwana (previous year's income)
(26). Anurwana (casual income)
(27). Kottore dera (cow tax)
(28). Gauu rauvadna or gauu sana (levy for village headman)
(29). Miiu honnu (government share?)
(30). Kalavattu or kalahore or kaluallga (same as 21 No.8)
(31). Naccumna
(32). Dhurwana (tax on produce-income)
(33). Kaladore (site or ground-tax)
(34). Bitti college (forced-labour)
(35). Kette kaluva jere (irrigation tax)
(36). Aitul watta (irrigation-tax)
(37). Aliyu (damage or depreciation-tax)
(38). Kesaru yana (fire tax)
(39). Gacoom (godown tax)
(40). Aduqghub (prepared sugar-cane tax)
(41). Dhauli-rada bhandī (tax on a kini of cart)
(42). Dālamāni tūmpa
(45). Nālakūpu
(44). Koṅgāsīdēra (tax for rent-free estate)
(48). Karukūnī
tarī
(46). Kattalā nēśā (customary payment)
(47). Bath duty or estate duty
(49). Kūndā or kūnāsidēra (dues on virgin-land)
(50). Kōttāvar (digging or levy for maintaining the lowest
village servant)
(51). Vātāvar (tax for providing food to military forces)
(52). Pūtāvarāyā kandāva
(53). □edēra (tax on jaggery making)
(54). Karpilādēra
(55). Bhatra nālāgā (perhaps connected with allowance)
(56). Pollo nālāgā
(57). Pattara nehān
(58). Dhanā tārī (cattle-tax) or wealth-tax
(59). Property tax
(60). Family-tax on bullocks.

1. E.C. XV, III, No. 51
2. Ibid., in, No. 59. If the word is dālāvī it stands for
military contribution, see Mahalingam S.A.P., p. 450
3-5. E.C., V, Ak., No. 67
6. M.A.R., 1940, No. 14
7. E.C., IX, No. 3
8, 9. M.A.R., 1942, No. 26
10. E.C., IV(11), Ch., No. 197.
11. E.C., IV(11), Rā., No. 30
12 & 13. E.C., III(1), Sr., No. 104 - perhaps connected with irrigation.
14-16. C.P., VII(1) Kr., No. 63
17. E.C., VII(1), Sk., No. 48
18. E.C., VIII, (11), Sh., No. 179.
19. E.C., VII(1), Id., No. 25
(61). Hoolahara
(62). Banirkka (tax on wet land)
(63). Jelativa, tore (perhaps connected with taking out gold from sand)
(64). Padavanda
(65). Barnigedone (dyers-tax)
(66). Hitjulero (tax for decorations with flour-rangoli)
(67). Balauna (cattle-tax)
(68). Aratoph (tax reduced to half or one on manya lands)
(69). Kuliva akono (production-tax on areca)
(70). Okkolu dore (family-tax)
(71). Lesson dore (dyers' tax)
(72). Kottani or kuruvangac

Industrial Taxes:

(1). Mangadara (loom-tax)
(2). Torodoro or hingadore (smoke tax-levy on blacksmiths)
(3). Panchakaranaka dore (tax on artisans)
(4). Gandara (tax on oil-wilbs)
(5). Uppinsakavili dore (tax on salt pans)
(6). Indutadara

1. JI, XI(11), No. 200
2. E.U. XI, No. 39 (a)
3. E.I, XI(11), No. 200. — perhaps a supplementary industry
4. E.I, XVI, No. 83.
5. E.I, XV, No. 132. — do —
6. E.I, XX, No. 12. — do —
7. E.C, XV(11). Ch. No. 181
8. E.I, No. 33; Kurthy, KBSA, p. 397
9. E.I, XI(11), No. 198
10. K.I, IV, No. 14
13. E.C, XV, No. 112.
14. Thia, E.I, VI, Kd. No. 49
15. E.I, IX(11), No. 223
17. Thia., No. 145
18. E.U., VII(1) II, No. 46
(7). Gānadokekaludeśa (family-tax on oil-mills)
(8). Kumbhāradāra (tax on potters)
(9). Kīṇālīkāra (tax on basket-makers)
(10). Kabbilādāra (tax on blacksmiths)
(11). Kāvākāra (tax on frying-pans)
(12). Ādāro (tax on sugar-cane mills)
(13). Mātārāvina (kind of anvil tax on blacksmiths)

(c). Commercial Taxes:

(1). Hālava sunka (river-toll)
(2). Vālāvāra (import-duty)
(3). Hāravārya (export-duty)
(4). Vattīva sunka
(5). Hātrava sunka (levy on loads at the point of lifting)
(6). Nalavatī (ground-toll)
(7). Hālānka (great or central-levy)
(8). Pānāgoda sunka (toll on grains)
(9). Aliko sunka (toll on arecanut)
(10). Pannāva sunka (toll on betel-leaves)
(11). Vaddārāvula (internal-tax on commodities of quality)
(12). Erādu bālkāda sunka (import-export duty)
(13). Kirukula sunka\(^1\) (small lovos)

(14). Tulabhändade sunka\(^2\) (toll on locally-produced goods)

(15). Furaugade sunka\(^3\) (municipal levy)

(16). Kula sunka\(^4\) (producers' toll)

(17). Bridge-toll\(^5\)

(18). Rattina sunka\(^6\) (toll on bullocks)

(19). Santova sunka\(^7\) (toll on fairs)

(20). Tēpaga sehita\(^8\)

(21). Singavattiseva sunka (a kind of levy on fairs)

(22). Kilvaha\(^9\) (toll on inferior quality goods)

(23). Kudure sunka\(^10\) (toll on horses)

(24). Kavurda

(25). Könana hūrine sunka\(^11\) (toll on he-buffaloes)

(26). Hārikāya sunka (toll on head-loads)

(27). Anumppa sunka (potty toll)

(28). Kodavisa (toll collected to maintain toll-keepers)

(29). Addavale (toll levied at cross-roads)

(30). Bake-dam sunka (toll on bracelet or bangle-Sellu)

(c). Profession Taxes:

(1). Tattār pattam\(^12\) (tax on goldsmiths)

(2). Kabhipada horike (tax on fowlers)

(3). Holevdare\(^13\) (tax on outcastes)
(4). Akka-sala ovaha konadaee (levy on minting)

(5). Sanna-dere (tax on public woman)

(6). Nuvada var (tax on barbers)

(7). Konadi vapa (mirror-tax connected with public women)

(8). Ambale dare (takas on fishermen)

(9). Anacere (tax on washerwomen)

(10). Konnerader (tax on blacksmiths)

(11). Kavalte (tax on cobblers)

(d). Miscellaneous Taxes-

(1). Kumara-ganike (prince's tribute)

(2). Varavana (warriors' tax)

(3). Kodati vana (scissors-tax)

(4). Kodiko vana (tax on coverings)

(5). Kanike (tribute)

(6). Aroonete (a levy to meet expenses of unexpected visitors)

(7). Katoka eeno (perhaps a tax to maintain forts)

(8). Malabaya (garden-tax)

(9). Adaltkanike

(10). Manipula (similar to sl. No. 8)

(11). Pantihaere

1. C.I.I., XV, No. 70
2. R.C., IX, No. 135
3. S.I.I., IX(i), No. 132.
4. Ibid., No. 115.
5. R.C., VII(i), IX, No. 8.
6. R.C., I, No. 4, see Murthy K.S.S.A, p. 444
7-10. R.C., IX, No. 6.
11. R.C., VI(i), IX, No. 180.
14. R.C., IV(i), XI, No. 39.
15. R.C., XIV, IX, No. 203.
16. R.C., VI, IX, No. 78.
17. Ibid., No. 18.
(12). Mathedero
(13). Handara bopp (pandal-tax)
(14). Aneema
(15). Minacchu kōpika (see for leaving the feet)
(16). Mannaya aṇuvada monova
(17). Thalāra gumka (watchman-levy)
(18). Dūniya bōniva toro
(19). Dantki bhariyana
(20). Venkidara
(21). Dūnuiluvana
(22). Mannaya 16 (house-tax)
(23). Lithāvanda
(24). Kattala bhatte gumka (a kind of customary payment)
(25). Pāndhanda
(26). Prāpara mālu
(27). Dalāvadācaka (military-levy)
(28). Haṇuvana b hariyana
(29). Kaṭhavana
(30). Juṇā
(31). Ganeś hūada (nuptial-tax)

1. S I, VI, N2, No. 125.
2. S I (1), VI(1), No. 402
3. S I, XVI, No. 110. Also see Kornada pighanta I(11) p.139.
4. S I, XVI, No. 110.
5. S I, VI(1), St. No. 137 p.104.
7. S I, XV, No. 108
8. S I, XVII, No. 14, p.166
10. S I, XIV, No. 14, p.166
11. S I, III, I, No. 30
12-16. S I, XII(1), B. No. 59
17. S I, VII(1), St. No. 111.
18. S I, VII(11), B. No. 80
19. S I, XI(11), No. 162
(32). \textit{Jalla}^1
(33). \textit{Kallavelike}^2 \textit{(toddy-tapping)}
(34). \textit{Ramu tarudi}^3
(35). \textit{Asatiya}^4
(36). \textit{Ukahe} \textit{(celebration)}
(37). \textit{Upatobanda}^6 \textit{(coronation-levy)}
(38). \textit{Putrotdata} \textit{(levy at the time of birth of a son)}
(39). \textit{Lapana}
(40). \textit{Ibake kanike}
(41). \textit{Kharava}^1 \textit{(sale within the village)}
(42). \textit{Kattkuli}^11 \textit{(breeding-bull levy)}.
(43). \textit{Durinatvagata} \textit{(military-levy)}
(44). \textit{Manda sadyan} \textit{(a kind of poll-tax)}
(45). \textit{Vadovama hoo}
(46). \textit{Feari rahl} \textit{(toll for goddess)}
(47). \textit{Kallare badda} \textit{(theft levy)}
(48). \textit{Daruuma kanike} \textit{(pilgrim-tax)}
(49). \textit{Chakravartiya mose} \textit{(emperors' levy)}.
(50). \textit{Maduvana bandan hoo} \textit{(marriage pencaal-tax)}

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1. E. C., XXXIII, No. 5, pp.31-36
2. E. C. XI, Kr. No. 87.
3. S. I., XI(1), No. 75 - taken with aliyu it has been considered as a levy for providing quarters to soldiers (see Murthy, K. S. S. A., p. 398.)
4. S. I., XI(1), No. 75 - taken with aliyu it has been considered as a levy for providing quarters to soldiers (see Murthy, K. S. S. A., p. 398.)
5-10. E. C., III, Tr. No. 87
11-13. E. C., IV(ii), Nq. No. 36
13. Ibid., Ch. No. 34.
15. E. C., IX, Kn. Ib. 78.
17. Ibid., Kn. No. 72.
18. S. I., XII(iii), No. 182, p.242
1. Apparvia pana (levy at the time of marriages &c)
2. Pandavat pana (levy at the time of sales or gifts)
3. Pareda vattiga
4. Mutilvati
5. Āṣivari (a kind of dowry)
6. Danda dāga
7. Kayānika
8. Ranasannayā (war-levy)
9. Sākaśi
10. Ḍāiliva pana
11. Parishāya pana
12. Varpatiga (perhaps a tax for undertaking constructive work in villages).

1 & 2. E.G. (Ii). Ch. No. 203, p. 538
3. M.A.R. 1936, No. 55, p. 140—perhaps a tax or a kind of cloth worn by the chief of merchants as a mark of honor.
Parada also means goods.
4. M.A.R. 1936, No. 55—p. 140—a sword or a kind of sword held in the clenched hand and used as a symbol of dignity by chief of merchants.
6. E.G. XII, Ch. No. 8
7. E.G., VIII (ii), Tl. No. 192
8-9. J.I. IV, No. 54.
10. Imd. No. 16
11. J.A. M.XIX, No. 181