An assessment of plant diversity in Home gardens of Reang Community of Tripura

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Abstract

Home gardens are small plots of land surrounding the house and are found in all traditional communities throughout the world. The present study tries to examine the role of Reang Home gardens in North Tripura district of Tripura. A total of 38 Home gardens in 4 hamlet or pada were randomly selected for the study. Total plant inventory and interview method were used to collect data. In Reang Home gardens at North Tripura District overall 148 species under 130 genera belonging to 55 families have been inventoried. Leguminosae and Poaceae were the most dominant families. Forty percent of the Reang Home garden plants were found to harbour edible plant species. (food, Fruits, vegetable, pulses, spices), 22% medicinal, 18% ornamental, 4% timber, 3% fine wood and other categories remain little over 3%. Reang Home garden shows a good diversity with multiple uses. Most Reang peoples rely on folk health care traditions. Domestication of wild plants for food, medicine and other purposes are an important activity.

Key words: Home garden, Reang tribe, North Tripura

INTRODUCTION

Home gardens are small plots of land surrounding the house and are found in all traditional communities throughout the world. Home gardens as an ecosystem contains multiple levels of diversity (Watson & Eyzaguirre 2002). They are the source of edible, medicinal, construction materials and other useful plants, and also act as a repository for uncommon species and varieties. Home gardens play a significant role in maintaining biodiversity and domestication of wild species (Goutam *et al.* 2006). It is believed that traditional Home Garden practices depend on the type of human community, tradition, needs, beliefs, etc. (Tangjang & Arunachalam 2009). The traditional Home gardens practiced by ethnic community i.e. Reang community in Tripura, India have been studied to provide a base for further scientific studies.

There is no any optimum or standard size for a Home Garden. The structure of Home Gardens varies in different geographical regions depending upon the socio-economic and ecological conditions. The mean global size for a Home Garden unit varies from about 0.1 to 0.5 hectares (Fernandez & Nair 1986).

Tripura is a tiny hilly state in North Eastern Region of India. The state is bordered by Bangladesh to the west, south and some part of north, by Assam to extreme north and Mizoram to the east. The North Tripura district is adjacent to Assam and Mizoram. Tripura consists of nineteen diverse ethnic communities of which Tipras are the largest tribe and Reangs are the second largest (Gan Choudhury 2011; Acharyya 1999). Reang people are also distributed in the hilly tracts of Chittagong in Bangladesh, Mizoram, Assam and Manipur.

The correct nomenclature for this ethnic group is Bru means 'man'. (Gan Choudhury 1983). They are mainly distributed in the North Tripura, Dhalai, Gomati and South Tripura district of the state. Generally, Reang peoples live in separate groups or hamlets on hill top. A hamlet is called Kami. But nowadays pada is more commonly used (Gan Choudhury 1983). Kanchanpur of North Tripura district is the highly populated Sub-Division by Reangs in Tripura. They mostly used to practice the Huk or Jhum cultivation. But nowadays they have shifted to modern agricultural practice.

A number of studies on Home gardens have been done by different workers in the world (Soemarwofo 1987; Abdoellah 1990; Perera & Rajapakse 1991; Michon & Mary 1994; Agelet *et al.* 2000; Leiva *et al.* 2001; Kabir & Webb 2008; Talempos *et al.* 2014). Several workers studied Home garden system in India. (Nair & Sreedharan 1986; Jose & Shanmugaratnam 1993; Kumar *et al.* 1994, Peyre *et al.* 2006; Mohan *et al.* 2007; Thomas & Kurien 2013; Pandey *et al.* 2007; Kala 2010; Bajpai *et al.* 2013). In Northeast India, several workers have worked on traditional Home gardening system (Borthakur *et al.* 1998; Samati 2004; Das & Das 2005; Devi & Das 2010, 2013; Tangjang & Arunachalam 2009; Sahoo *et al.* 2010). However, there is no available literature on Home Gardening system of Tripura. Therefore, current study was undertaken to provide a baseline information on the Home Garden system of Reang tribe of Tripura. The main objective of the present study is to make a detailed inventory of floristic composition and document the utilization pattern of Home garden plants of Reang tribe of Tripura.

MATERIALS AND METHODS

Study Area:

The study was conducted in four villages namely, Dakshin Jariham para (24°2'13.4'' N, 92°12'9.5'' E, Elevation 111 m), Bru para (23°24'59.4'' N, 91°47'51.4'' E, Elevation 155 m) Bhaktamohan para (24°04'19.4'' N, 92°13'13.7'' E, Elevation 132 m) and Saboal (23°56'45.2'' N, 92°12'29'' E, Elevation 714 m) of Kanchanpur Sub-Division of North Tripura district during October 2014 to September 2016 in different seasons. A total of 38 households were surveyed.

In the survey sites there are three types of land uses:

- i. Forest land: Land deeds distributed according to Forest Right act 2006 (Patta)
- ii. Joteoe land; and
- iii. Khas land.

Dakshin Jariham para falls in the first category of land use. Bru para and Bhaktamohan para falls in the second category. In Saboal, people reside in jote land under the name of orange grower society and some are residing in forest land (Patta system). In the third category, people uses Khas land for Jhum and shifting cultivation and resides temporarily in Choto Kangrai, Bara Kangrai and Hamlaia para, however, shifting cultivation is not included in the data collected. In Bru para, Jariham para and Saboal, Home gardens were established in open areas and in Bhaktamohan para few Home Gardens were with fence.

A detailed survey of household was conducted and relevant information about the Home Gardens were collected through personal interview method and prepared questionnaires. Collected specimens were processed into mounted herbarium-sheets following standard methods (Jain & Rao 1977) and was deposited in Tripura University Herbarium. Plants were identified using *Flora of Tripura State* (Deb 1981, 1983), *Flora of Assam* (Kanjilal *et al.* 1934 – 1940), *Bengal Plants* (Prain 1903), *The Flora of British India* (Hooker

1872 – 1897) and existing different literatures. Few village markets were also surveyed to record the Home Garden products. The nomenclatures were updated using the Plant list (www.theplantlist.org) for the recorded plant species. The plant species have been arranged alphabetically and their details presented in Table 1.

RESULTS AND DISCUSSION

To assess the tribal Home Gardens oral informations were collected through self structured questionnaire containing – size of Home gardens, reasons for gardening, age of the garden, any investment, income generated from gardening, management practise etc.,. The information regarding medicinal uses, parts used and mode of preparation and administration were also recorded.

The Home Gardens of Reang community in North Tripura District altogether constitute 148 species under 130 genera belonging to 55 families (Table 1; Figure 1). Among the 55 families Leguminosae and Poaceae were the most dominant with 13 species each. Apocynaceae, Euphorbiaceae and Lamiaceae remained second dominant families with 8 plant species each. Cucurbitaceae and Solanaceae were the third dominant families with 6 species each (Figure 2). In this study plant species recorded were categorised under different life forms- climbers, herbs, shrubs, small trees, trees, and woody climbers. Different economic categories were found mainly food (vegetables, fruits, grains, spices, etc.), medicinal, ornamental and construction material. The main useful parts were fruits and leaves (Figure 4).

Table 1. Enumeration of plant species inventoried in Home gardens, including their common name and local use

Scientific Name [Family]; <i>specimen cited</i>	Reang Name	Habit	Parts Used	Uses
<i>Acacia auriculiformis</i> Benth.; [Leguminosae]; TUH 1827.		Tree	Wood	Fuel wood
<i>Achyranthes aspera</i> L. [Amaranthaceae]; TUH 1778.		Herb	Whole plant	Medicinal
<i>Acmella paniculata</i> (Wall. ex DC.) R.K. Jansen [Asteraceae]; TUH 1701.	<i>Ushnoi</i>	Herb	Inflorescence	Medicinal
<i>Aegle marmelos</i> (L.) Corrêa [Rutaceae]; TUH 1791.	<i>Bel</i>	Tree	Fruits, leaves	Fruit, Ritual
<i>Agave americana</i> L. [Asparagaceae]; TUH 1828.		Herb	Whole plant	Ornamental
<i>Albizia lebbbeck</i> (L.) Benth. [Leguminosae]; TUH 1792	<i>Bolphu</i>	Tree	Timber	Timber
<i>Albizia procera</i> (Roxb.) Benth. [Leguminosae]; TUH 1833	<i>Khouribufang</i>	Tree	Timber	Timber
<i>Allamanda cathartica</i> L. [Apocynaceae]; TUH 1793.		Shrub	Flower	Ornamental
<i>Alocasia macrorrhizos</i> (L.) G. Don [Araceae]; TUH 1829	<i>Thakortoma</i>	Herb	Rootstock	Vegetable
<i>Aloe vera</i> (L.) Burm. f. [Xanthorrhoeaceae]; TUH 1836		Herb	Leaves	Medicinal
<i>Alpinia nigra</i> (Gaertn.) Burt [Zingiberaceae]; TUH 1857	<i>Tara</i>	Herb	Stem	Vegetable, Medicinal
<i>Alstonia scholaris</i> (L.) R.Br. [Apocynaceae]; TUH 1850	<i>Chethuang</i>	Tree	Bark	Medicinal
<i>Alternanthera brasiliana</i> (L.) Kuntze [Amaranthaceae]; TUH 1861	<i>Lal agunsita</i>	Herb	Leaves	Medicinal
<i>Amorphophallus bulbifer</i> (Roxb.) Blume [Araceae]; TUH 1854	<i>Batema</i>	Herb	Corm and daughter corm	Vegetable
<i>Ananas comosus</i> (L.) Merr. [Bromeliaceae]; TUH 1864	<i>Omtoi</i>	Herb	Fruits, leaves	Fruit, Medicinal

Scientific Name [Family]; <i>specimen cited</i>	Reang Name	Habit	Parts Used	Uses
<i>Andrographis paniculata</i> (Burm.f.) Nees [Acanthaceae]; TUH 1865		Herb	Leaves	Medicinal
<i>Annona squamosa</i> L. [Annonaceae]; TUH 1898		Tree	Fruits, leaves	Fruit, Medicinal
<i>Areca catechu</i> L. [Arecaceae]; TUH 1851	<i>Kuwai</i>	Small tree	Fruits	Masticator
<i>Artocarpus chama</i> Buch.-Ham. [Moraceae]; TUH 1856		Tree	Wood, Fruit	Timber, Fruit
<i>Artocarpus heterophyllus</i> Lam. [Moraceae]; TUH 1740.	<i>Thaiphung</i>	Tree	Fruit, Wood	Fruit, Timber
<i>Artocarpus lacucha</i> Buch.-Ham. [Moraceae]; TUH 1810	<i>Dua</i>	Tree	Wood, fruit	Timber, Fruit
<i>Asparagus racemosus</i> Willd. [Asparagaceae]; TUH 1855	<i>Suptisara</i>	Climber	Root	Medicinal
<i>Ayapana triplinervis</i> (Vahl) R.M.King & H.Rob. [Asteraceae]; TUH 1720.	<i>Maisnoi</i>	Herb	Leaves	Medicinal
<i>Bambusa balcooa</i> Roxb. [Poaceae]; TUH 1858	<i>Wamlang</i>	Herb	Shoot, culm	Vegetable, Construction material
<i>Bambusa cacharensis</i> R.B.Majumdar [Poaceae]; TUH 1866		Herb	Culm	Miscellaneous
<i>Bambusa polymorpha</i> Munro [Poaceae]; TUH 1859	<i>Woashur</i>	Herb	Culm	Construction material
<i>Bambusa tulda</i> Roxb. [Poaceae]; TUH 1897	<i>Woarna</i>	Herb	Shoot, culm	Vegetable, Cottage industry
<i>Basella alba</i> L. [Basellaceae]; TUH 1830	<i>Muifrai</i>	Herb	Leaves, stem, inflorescence	Vegetable
<i>Bauhinia variegata</i> L. [Leguminosae]; TUH 1832		Tree	Flower	Ornamental
<i>Benincasa hispida</i> (Thunb.) Cogn. [Cucurbitaceae]; TUH 1896	<i>Khaklu</i>	Herb	Fruit, leaves, stem	Vegetable
<i>Bombax ceiba</i> L. [Malvaceae]; TUH 1885	<i>Bachum bufang</i>	Tree	Fibre of fruit	Stuffing material
<i>Bougainvillea glabra</i> Choisy [Nyctaginaceae]; TUH 1895	<i>Khunglekha</i>	Woody climber	Flower	Ornamental
<i>Bryophyllum pinnatum</i> (Lam.) Oken [Crassulaceae]; TUH 1886	<i>Jihar</i>	Herb	Leaves	Medicinal
<i>Cajanus cajan</i> (L.) Millsp. [Leguminosae]; TUH 1723.	<i>Khakleing</i>	Shrub	Fruit	Vegetable
<i>Caladium bicolor</i> (Aiton) Vent. [Araceae]; TUH 1899		Herb	Leaves	Ornamental
<i>Calamus tenuis</i> Roxb. [Arecaceae]; TUH 1860	<i>Raikecha</i>	Climber	Stem	Miscellaneous
<i>Calamus viminalis</i> Willd. [Arecaceae]; TUH 1868	<i>Chalang</i>	Climber	Stem	Making handicrafts
<i>Callicarpa arborea</i> Roxb. [Lamiaceae]; TUH 1886	<i>Chamathai</i>	Small tree	Stem	Fire wood
<i>Canna indica</i> L. [Cannaceae]; TUH 1894		Herb	Flower	Ornamental
<i>Capsicum annuum</i> L. [Solanaceae]. TUH 1702.	<i>Thamosa</i>	Herb	Fruit	Spices
<i>Carica papaya</i> L. [Caricaceae]; TUH 1862	<i>Kingkoya</i>	Herb	Fruit	Fruit, vegetable
<i>Cascabela thevetia</i> (L.) Lippold [Apocynaceae]; TUH 1893	<i>Khmbarungjak</i>	Shrub	Flower	Ornamental
<i>Catharanthus roseus</i> (L.) G.Don [Apocynaceae]; TUH 1887	<i>Khumbairagi</i>	Herb	Flower	Ornamental
<i>Celosia argentea</i> L. [Amaranthaceae]; TUH 1716.	<i>Khumchak</i>	Herb	Inflorescence	Ornamental
<i>Centratherum punctatum</i> Cass. [Asteraceae]; TUH 1831		Herb	Flower	Ornamental

Scientific Name [Family]; <i>specimen cited</i>	Reang Name	Habit	Parts Used	Uses
<i>Cheilocostus speciosus</i> (J.Koenig) C.D. Specht [Costaceae]; TUH 1852		Herb	Rhizome	Medicinal
<i>Citrus limon</i> (L.) Osbeck [Rutaceae]; TUH 1834	<i>Slung</i>	Small tree	Fruit	Fruit
<i>Citrus maxima</i> (Burm.) Merr. [Rutaceae]; TUH 1869	<i>Jamra</i>	Small tree	Fruit	Fruit
<i>Citrus reticulata</i> Blanco [Rutaceae]; TUH1888	<i>Slung</i>	Small tree	Fruit	Fruit
<i>Citrus hystrix</i> DC. [Rutaceae] TUH1891	<i>Satkara</i>	Small tree	Fruit	Fruit juice used in curry, medicinal
<i>Clerodendrum infortunatum</i> L. [Lamiaceae]; TUH 1801	<i>Chukhuima</i>	Shrub	Root	Medicinal
<i>Cocos nucifera</i> L. [Arecaceae]; TUH1889	<i>Naningra</i>	Small tree	Fruit, leaves	Fruit, broom making
<i>Codiaeum variegatum</i> (L.) Rumph. ex A.Juss. [Euphorbiaceae]; TUH 1870		Shrub	Leaves	Ornamental
<i>Combretum indicum</i> (L.) De Filippis [Combretaceae]; TUH 2401		Woody climber	Flower	Ornamental
<i>Cosmos sulphureus</i> Cav. [Asteraceae]; TUH 2418	<i>Khumtai</i>	Herb	Flower	Ornamental
<i>Crinum asiaticum</i> L. [Amaryllidaceae]; TUH 2467		Herb	Flower	Ornamental
<i>Cuphea viscosissima</i> Jacq. [Lythraceae]; TUH 1706.		Herb	Whole plant	Weed
<i>Curcuma longa</i> L. [Zingiberaceae]; TUH 1835	<i>Korma</i>	Herb	Rhizome	Spices, Medicinal
<i>Cymbopogon citratus</i> (DC.) Stapf [Poaceae]; TUH 1871	<i>Suimander</i>	Herb	Leaves	Spices
<i>Datura metel</i> L. [Solanaceae]; TUH 2402	<i>Dhutra</i>	Shrub	Leaves	Medicinal
<i>Delonix regia</i> (Hook.) Raf. [Leguminosae]; TUH 2417		Tree	Wood	Fire wood
<i>Dendrocalamus longispathus</i> (Kurz) Kurz [Poaceae]; TUH 2435	<i>Wamli</i>	Herb	Shoot,	Vegetable
<i>Dioscorea alata</i> L. [Dioscoreaceae]; TUH 2466	<i>Thamtai</i>	Climber	Root tuber	Vegetable
<i>Dioscorea bulbifera</i> L. [Dioscoreaceae]; TUH 1710.		Climber	Bulbils	Vegetable
<i>Dolichos lablab</i> L. [Leguminosae]; TUH 2441	<i>Kasoi</i>	Climber	Fruits	Vegetable
<i>Eryngium foetidum</i> L. [Apiaceae]; TUH 2455		Herb	Leaves	Spices
<i>Erythrina variegata</i> L. [Leguminosae]; TUH 2403	<i>Mander</i>	Tree	Wood	Fuel wood
<i>Euphorbia hirta</i> L. [Euphorbiaceae]; TUH 2446	<i>Howsaija bithi</i>	Herb	young whole plant	Medicinal
<i>Euphorbia nerifolia</i> L. [Euphorbiaceae]; TUH 2415	<i>Shiblatha</i>	Small tree	latex, leaves	Medicinal
<i>Euphorbia tithymaloides</i> L. [Euphorbiaceae]; TUH 2433		Herb	Whole plant	Ornamental
<i>Ficus hispida</i> L.f. [Moraceae]; TUH 2465	<i>Thaibeiche</i>	Small tree	Leaves, inflorescence	Fodder, Vegetable
<i>Gardenia jasminoides</i> J.Ellis [Rubiaceae]; TUH 2425		Shrub	Flower	Ornamental
<i>Garuga pinnata</i> Roxb. [Burseraceae]; TUH 2447	<i>Nilfung</i>	Tree	Leaves	Medicinal
<i>Gloriosa superba</i> L. Colchicaceae; TUH 2404		Herb	Flower	Ornamental
<i>Gmelina arborea</i> Roxb. [Lamiaceae]; TUH 2423	<i>Kambarui</i>	Tree	Wood	Timber
<i>Gossypium hirsutum</i> L. [Malvaceae]; TUH2464	<i>Khul</i>	Shrub	Lints from seeds	Multipurpose
<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult. [Apocynaceae]; TUH2445		Herb	root	Medicinal
<i>Hibiscus rosa-sinensis</i> L. [Malvaceae]; TUH 2414		Shrub	Flower	Ornamental
<i>Holmskioldia sanguinea</i> Retz. [Lamiaceae], TUH 1703.		Shrub	Flower	Ornamental

Scientific Name [Family]; <i>specimen cited</i>	Reang Name	Habit	Parts Used	Uses
<i>Homalomena aromatica</i> (Spreng.) Schott [Araceae]; TUH 2454	<i>Kamaitru</i>	Herb	petiole	Vegetable
<i>Hyptis capitata</i> Jacq. [Lamiaceae]; TUH 1727.	<i>Maishnoiktor ma</i>	Herb	Leaves	Medicinal
<i>Impatiens balsamina</i> L. [Balsaminaceae]; TUH 2405		Herb	Flower	Ornamental
<i>Imperata cylindrica</i> (L.) Raeusch [Poaceae]; TUH 2444.		Herb	Leaves	House making
<i>Ipomoea cairica</i> (L.) Sweet [Convolvulaceae]; TUH 1796.		Herb	Flower	Ornamental
<i>Jasminum sambac</i> (L.) Aiton [Oleaceae]; TUH 1786.		Shrub	Flower	Ornamental
<i>Jatropha curcas</i> L. [Euphorbiaceae]; TUH 2406	<i>Chukhuima fang</i>	Herb	Latex	Medicinal
<i>Jatropha gossypifolia</i> L. [Euphorbiaceae]; TUH 2434		Shrub	Latex	Medicinal
<i>Justicia gendarussa</i> Burm.f. [Acanthaceae]; TUH2452		Under shrub	Leaves	Medicinal
<i>Lagenaria siceraria</i> (Molina) Standl. [Cucurbitaceae]; TUH 2413	<i>Muilao</i>	Herb	Fruits, twigs	Vegetables
<i>Litchi chinensis</i> Sonn. [Sapindaceae]; TUH 2443	<i>Lechu</i>	Tree	Fruits	Fruit
<i>Luffa acutangula</i> (L.) Roxb. [Cucurbitaceae]; TUH 1787	<i>Chenga</i>	Herb	Fruits	Vegetable
<i>Luffa cylindrica</i> (L.) M.Roem. [Cucurbitaceae]; TUH 1719.	<i>Fra-mathai</i>	Herb	Fruits	Vegetable
<i>Magnolia champaca</i> (L.) Baill. ex Pierre [Magnoliaceae]; TUH 2407		Tree	Flower	Ornamental
<i>Mangifera indica</i> L. [Anacardiaceae]; TUH 1738.	<i>Thaichuk</i>	Tree	Fruits	Fruit
<i>Manihot esculenta</i> Crantz [Euphorbiaceae]; TUH 1847	<i>Thabachu</i>	Shrub	Root tuber	Vegetable
<i>Maranta arundinacea</i> L. [Marantaceae]; TUH 2442		Herb	rhizome	Medicinal
<i>Melia azedarach</i> L. [Meliaceae]; TUH 2459	<i>Eaing</i>	Tree	Leaves	Medicinal
<i>Melocanna baccifera</i> (Roxb.)Kurz. [Poaceae]; TUH 2408	<i>Warthoi</i>	Herb	Shoot, culm	Vegetable, Hut making
<i>Mesua ferrea</i> L. [Calophyllaceae]; TUH 2463		Tree	Whole plant	Ornamental
<i>Momordica dioica</i> Roxb. ex Willd. [Cucurbitaceae]; TUH 1848		Herb	Fruits	Vegetable
<i>Morinda angustifolia</i> Roxb. [Rubiaceae]; TUH 2412		Small tree	Root	Medicinal
<i>Moringa oleifera</i> Lam. [Moringaceae]; TUH 2457	<i>Sejana</i>	Small tree	Fruit, leaves , Flowers	Vegetable
<i>Morus australis</i> Poir. [Moraceae]; TUH 1789.		Small tree	Fruits	Medicinal
<i>Musa paradisiaca</i> L. [Musaceae]; TUH 2460	<i>Thalik</i>	Herb	Shoot, Fruits, Inflorescence	Fruit, vegetable
<i>Nyctanthes arbor-tristis</i> L. [Oleaceae]; TUH 2409	<i>Shephali</i>	Small tree	Flowers, leaves	Ornamental, medicinal
<i>Ocimum tenuiflorum</i> L. [Lamiaceae]; TUH 1788.		Herb	Leaves	Medicinal
<i>Oldenlandia verticillata</i> L. [Rubiaceae]; TUH 2461		Herb	Leaves	Medicinal
<i>Oroxylum indicum</i> Vent. [Bignoniaceae]; TUH 2410	<i>Takharung</i>	Tree	Fruits, Bark	Vegetable, medicinal.
<i>Pachyrhizus erosus</i> (L.) Urb. [Leguminosae]; TUH 1741.	<i>Khakchangma</i>	Climber	Root tuber	Raw food
<i>Pandanus amaryllifolius</i> Roxb. [Pandanaceae]; TUH 1846		Herb	Leaves	Spices, medicinal
<i>Parkia javanica</i> (Lam.) Merr. [Leguminosae]; TUH 2448	<i>Wikre</i>	Tree	Fruits, Inflorescence	Vegetable

Scientific Name [Family]; <i>specimen cited</i>	Reang Name	Habit	Parts Used	Uses
<i>Passiflora foetida</i> L. [Passifloraceae]; TUH 2411.	<i>duthaitoi</i>	Herb	Ripe fruits	Fruit
<i>Phaseolus lunatus</i> L. [Leguminosae]; TUH 1717.		Climber	Seeds	Pulses
<i>Phragmites karka</i> (Retz.) Trin. ex Steud. [Poaceae]; TUH 1842	<i>Lubong</i>	Herb	Inflorescence	Rituals
<i>Phyllanthus acidus</i> (L.) Skeels [Euphorbiaceae]; TUH 2429		Tree	Fruit	Fruit
<i>Phyllanthus emblica</i> L. [Phyllanthaceae]; TUH 2458	<i>Amlai</i>	Tree	Fruits	Raw fruit
<i>Physalis minima</i> L. [Solanaceae]; TUH 1790.	<i>Thaitoi</i>	Herb	Ripe fruit	Fruit
<i>Piper betle</i> L. [Piperaceae]; TUH 2462	<i>Fathoi</i>	Climber	Leaves	Masticator
<i>Plectranthus scutellarioides</i> (L.) R.Br. [Lamiaceae]; TUH 2411		Herb	whole plant	Ornamental
<i>Plumbago zeylanica</i> L. [Plumbaginaceae]; TUH 1817.	<i>Agunsita</i>	Herb	Leaves	Medicinal
<i>Plumeria rubra</i> L. [Apocynaceae]; TUH 1880		Tree	Flowers	Ornamental
<i>Psidium guajava</i> L. [Myrtaceae]; TUH 1900	<i>Guiang</i>	Small tree	Fruits	Fruits
<i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz [Apocynaceae]; TUH 1747.	<i>Chanduama</i>	Herb	Roots	Medicinal
<i>Rosa centifolia</i> L. [Rosaceae]; TUH 1884		Shrub	Flowers	Ornamental
<i>Sansevieria trifasciata</i> Prain [Asparagaceae]; TUH 1890	<i>Musaslai</i>	Herb	Rhizome	Medicinal
<i>Schizostachyum dullooa</i> (Gamble) R.B.Majumdar [Poaceae]; TUH 1843	<i>Wakla</i>	Herb	Culm	Handicrafts, small construction
<i>Sechium edule</i> (Jacq.) Sw [Cucurbitaceae]; TUH 1879.		Climber	Fruit	Vegetable
<i>Senna siamea</i> (Lam.) H.S.Irwin & Barneby [Leguminosae]; TUH 1883	<i>Muitapi</i>	Tree	Whole plant	Fire wood
<i>Setaria italica</i> (L.) P.Beauv. [Poaceae]; TUH 1844	<i>Maisoi</i>	Herb	Grains	Food
<i>Sida rhombifolia</i> L. [Malvaceae]; TUH 1875	<i>Dangarnusi</i>	Herb	Whole plant	Broom
<i>Solanum melongena</i> L. [Solanaceae]; TUH 1882	<i>Fanthau</i>	Undershrub	Fruits	Vegetable
<i>Solanum torvum</i> Sw. [Solanaceae]; TUH 1840	<i>Khanka</i>	Shrub	Fruits	Vegetable
<i>Solanum violaceum</i> Ortega [Solanaceae]; TUH 1730.	<i>Khanka</i>	Undershrub	Fruits	Vegetable
<i>Stephania glabra</i> (Roxb.) Miers [Menispermaceae]; TUH 1762 .	<i>Blong Kha-kchangma, Thanda manik</i>	Herb	Leaves	Medicinal
<i>Sterculia villosa</i> Roxb. [Malvaceae]; TUH 1838	<i>Fathi</i>	Tree	Bark	Rope making
<i>Syzygium cumini</i> (L.) Skeels [Myrtaceae]; TUH 1878	<i>Chambu</i>	Tree	Fruits	Fruit
<i>Tabernaemontana divaricata</i> (L.) R.Br. ex Roem. & Schult. [Apocynaceae]; TUH 1841		Shrub	Flowers	Ornamental
<i>Tagetes erecta</i> L. [Asteraceae]; TUH 1873	<i>Khumtu</i>	Herb	Flowers	Ornamental
<i>Tamarindus indica</i> L. [Leguminosae]; TUH 1758.	<i>Tintoi</i>	Tree	Fruits	Multipurpose
<i>Tectona grandis</i> L.f. [Lamiaceae]; TUH 1874	<i>Segun</i>	Tree	Woody stem	Timber
<i>Terminalia bellirica</i> (Gaertn.) Roxb. [Combretaceae]; TUH 1839	<i>Thaisatoi</i>	Tree	Fruits	Medicinal
<i>Thunbergia grandiflora</i> (Roxb. ex Rottl.) Roxb. [Acanthaceae]; TUH 1877		Climber	Flowers	Ornamental
<i>Thyrsostachys oliveri</i> Gamble [Poaceae]; TUH 1881		Herb	Culm	Multipurpose
<i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda [Poaceae]; TUH 1872	<i>Nouksi</i>	Herb	Inflorescence	Broom
<i>Toona ciliata</i> M. Roem. [Meliaceae]; TUH 1845	<i>Puma</i>	Tree	Woody stem	Timber
<i>Xanthosoma sagittifolium</i> (L.) Schott [Araceae]; TUH 1863	<i>Kala manai</i>	Herb	petiole, stolon	Vegetable

Figure 1. Showing total number of Family, Genus, and species in Reang Home Gardens

Figure 2. Representation of different plant families recorded from Reang Home Gardens

Out of 148 plant species herbs constitutes 69 species, trees 32, small trees 15, shrubs 16, under shrub 3, climbers 11 and 2 woody climbers were recorded [Figure 3]. 40 %of the Reang Home Garden plants are used as edible, 22% medicinal, 18% ornamental, 4% timber, 3% fire wood and the rest remain less than 3% which were construction material, broom making, ritual plants, masticator, stuffing material, fodder, rope making, multipurpose, cottage industry weed etc. [Figure 5]. Thus plants of the Reang Home garden show multiple uses and are maintained for meeting the requirements of their food, medicine, ornamental, construction materials, fuel wood etc.

Among the most frequently used food plants are *Benincasa hispida*, *Cajanus cajan*, *Carica papaya*, *Dioscorea alata*, *Dioscorea bulbifera*, *Homalomena aromatica*, *Lagenaria siceraria*, *Musa paradisiaca*, *Phaseolus lunatus*, *Xanthosoma sagittifolium*, *Solanum melongena*, *Solanum torvum*, *Solanum violaceum*, *Citrus reticulata*, *Citrus hystrix*, etc.

Reang people also sell Home garden products to supplement their income. Products found selling in the local market are shoots of *Dendrocalamus longispathus*, *Bambusa tulda*, *Melocanna baccifer*, young leaves of *Lasia spinosa*, *Diplazium esculentum*, *Acacia pennata*; root tubers of *Manihot esculenta*, *Dioscorea glabra*; petioles of *Homalomena aromatica*, Corm and daughter corm of *Amorphophallus bulbifer*, stem with rhizome of *Alpinia nigra*, leaves of *Ocimum americanum*, etc. are important (Table 2).

Figure 3. Plant species with various habit groups of Reang Home Gardens

Table 2. Result of market survey in of Kanchanpur area

Plant Name	Family	Habit	Parts marketed
<i>Acacia pennata</i>	Leguminosae	Liana	Leaves
<i>Alpinia allughas</i>	Zingiberaceae	Herb	Stem, rhizome
<i>Amaranthus caudatus</i>	Amaranthaceae	Herb	Whole plant
<i>Amorphophallus bulbifer</i>	Araceae	Herb	Corm, petiole, young leaves
<i>Areca catechu</i>	Arecaceae	Tree	Fruits
<i>Artocarpus heterophyllus</i>	Moraceae	Tree	Fruits
<i>Bambusa tulda</i>	Poaceae	Giant herb	Shoot
<i>Capsicum annuum</i>	Solanaceae	Herb	Fruits
<i>Centella asiatica</i>	Apiaceae	Herb	Leaves
<i>Citrus limon</i>	Rutaceae	Shrub	Fruits
<i>Colocasia esculenta</i>	Araceae	Herb	Root stock, stolon, petiole
<i>Corchorus olitorius</i>	Tiliaceae	Herb	Leaves
<i>Cucumis sativus</i>	Cucurbitaceae	Herb	Fruits
<i>Cucurbita pepo</i>	Cucurbitaceae	Herb	Fruit, twigs
<i>Dendrocalamus longispathus</i>	Poaceae	Giant herb	Shoot
<i>Dioscorea glabra</i>	Dioscoreaceae	Herb	Root tuber
<i>Diplazium esculentum</i>	Athyriaceae	Herb	Tender shoots
<i>Ensete glaucum</i>	Musaceae	Herb	Young inflorescence
<i>Eryngium foetidum</i>	Apiaceae	Herb	Leaves
<i>Hibiscus cannabinus</i>	Malvaceae	Undershrub	Leaves, young fruits
<i>Homalomena aromatica</i>	Araceae	Herb	Petiole
<i>Lasia spinosa</i>	Araceae	Herb	Young leaves
<i>Luffa acutangula</i>	Cucurbitaceae	Herb	Fruits
<i>Manihot esculenta</i>	Euphorbiaceae	Shrub	Root tuber, leaves
<i>Melocanna baccifera</i>	Poaceae	Giant herb	Shoot
<i>Momordica charantia</i>	Cucurbitaceae	Herb	Fruits, twigs
<i>Momordica dioica</i>	Cucurbitaceae	Herb	Fruits
<i>Musa paradisiaca</i>	Musaceae	Herb	Inflorescence, fruit
<i>Ocimum americanum</i>	Lamiaceae	Herb	Leaves

Plant Name	Family	Habit	Parts marketed
<i>Solanum melongena</i>	Solanaceae	Undershrub	Fruits
<i>Solanum torvum</i>	Solanaceae	Undershrub	Fruits
<i>Trachyspermum roxburghianum</i>	Apiaceae	Herb	Leaves,
<i>Trichosanthes cucumerina</i>	Cucurbitaceae	Herb	Fruits
<i>Vigna unguiculata</i>	Leguminosae	Herb	Fruits
<i>Zingiber officinale</i>	Zingiberaceae	Herb	Rhizome, plant body

During this study 22 % of the total plant species were found to be used as medicine. Most Reang peoples rely on folk health care traditions as they are residing in remote areas and for their socio-economic condition. They depend on traditional healers for treating various ailments using different plants, which is locally available and are inexpensive. Among the medicinal plants *Aloe vera*, *Alpinia nigra*, *Alternanthera brasiliana*, *Asparagus racemosus*, *Ayapana triplinervis*, *Cheilocostus speciosus*, *Oroxylum indicum*, *Plumbago zeylanica*, *Rauvolfia serpentina*, *Solanum violaceum* and *Stephania glabra* are important (Table 3). Domestication of wild plants in Home Gardens for medicine is an important activity in Xishuangbanna in China and other tropical regions (Gao *et al.* 2012). In the traditional Home gardens of North East India medicinal plants were second largest use category (Sahoo *et al.* 2010). Similar findings were observed in the Home Gardens of Assam after vegetable and fruit constituents. Medicinal plants were the most dominant species (Devi & Das 2010). Medicinal plants in Home gardens were documented to be second important plant group in Sri Lanka and Bangladesh also (Mustafa *et al.* 2002).

Figure 4. Different plant parts used by Reang tribe of North Tripura

Table 3. Ethnomedicinal uses of recorded plants

Plant name	Parts used	Mood of use
<i>Achyranthes aspera</i>	Whole plant	Helps in increasing appetite and lactation
<i>Acmella paniculata</i>	Inflorescence	Toothache
<i>Aloe vera</i>	Leaves	Used in a herbal mixture that cures menstrual disorder
<i>Alpinia nigra</i>	Stem	Cures liver disorder
<i>Alstonia scholaris</i>	Bark	Used to cure fever.
<i>Alternanthera brasiliana</i>	Leaves	Mixed together with <i>Plumbago</i> and <i>Datura</i> leaves and used for abortion
<i>Ananas comosus</i>	Fruits, leaves	Used as anthelmintics
<i>Andrographis paniculata</i>	Leaves	Juice helps to treat stomachache

Plant name	Parts used	Mood of use
<i>Annona squamosa</i>	Fruits, leaves	Extract used to treat diarrhoea (fruits) and dysentery (leaves)
<i>Asparagus racemosus</i>	Root	Smashed and applied to in fever
<i>Ayapana triplinervis</i>	Leaves	Squashed and applied to cure eye infection; also in cuts and wounds
<i>Bryophyllum pinnatum</i>	Leaves	Helps to improve appetite
<i>Cheilocostus speciosus</i>	Rhizome	Juice used to cure asthma and bronchitis
<i>Citrus hystrix</i>	Fruit	Digestive stimulant
<i>Clerodendrum infortunatum</i>	Root	Juice is used to treat blood dysentery
<i>Curcuma longa</i>	Rhizome	Used to treat Jaundice
<i>Datura metel</i>	Leaves	Used for abortion
<i>Euphorbia hirta</i>	Young whole plant	Helps to increase lactation
<i>Euphorbia nerifolia</i>	Latex, leaves	Latex and leaf juice mixed with honey and used to treat cough and bronchitis
<i>Garuga pinnata</i>	Leaves	Boiled leaf used in bathing as a treatment of measles and pox
<i>Hemidesmus indicus</i>	Root	Juice used to treat urinary infections
<i>Hyptis capitata</i>	Leaves	Juice to treat fever
<i>Jatropha curcas</i>	Latex	Applied in toothache
<i>Jatropha gossypifolia</i>	Latex	To treat cuts and wounds
<i>Justicia gendarussa</i>	Leaves	Squashed and used in cuts and wounds
<i>Maranta arundinacea</i>	Rhizome	Powdered and boiled, given in stomach disorder
<i>Melia azedarach</i>	Leaves	Juice mixed with honey and used to treat eczema
<i>Morinda angustifolia</i>	Root	Paste used to treat smallpox and urinary infection
<i>Morus australis</i> Poir.	Fruits	Taken in fever
<i>Nyctanthes arbor-tristis</i>	Flowers, leaves	As anthelmintic
<i>Ocimum tenuiflorum</i>	Leaves	To treat common cold
<i>Oldenlandia verticillata</i>	Leaves	Juice used to treat woman in confinement and pox patient
<i>Oroxylum indicum</i>	Fruits, bark	Barks to treat jaundice
<i>Pandanus amaryllifolius</i>	Leaves	In asthma
<i>Plumbago zeylanica</i>	Leaves	In gynaecological disorder
<i>Rauvolfia serpentina</i>	Roots	Smashed and taken in stomachache
<i>Sansevieria trifasciata</i>	Rhizome	In gynaecological disorders
<i>Senna siamea</i>	Root	To treating jaundice
<i>Solanum violaceum</i>	Fruits	Smashed and consume during stomach ache
<i>Stephania glabra</i>	Leaves	Smashed and used as ointment during headache
<i>Terminalia bellirica</i>	Fruits	Used in hepatitis, bronchitis and asthma

Figure 5. Plants with different conomic categories recorded from Reang Home Gardens

Local markets are the places where home garden products were also sold. During the local market survey at Kanchanpur and its adjoining areas, different plant parts belonging to 35 species were observed and recorded. Amongst them, large amount of young-shoots of different bamboo species, different types of aroids, cucurbits etc along with other plant products were generally found. Corm of *Amorphophallus bulbifer*, young shoot of *Melocanna baccifera*, daughter corm or cormel of *Colocasia esculenta* and petiole of *Homalomena aromatica* were the chief selling component.

CONCLUSION

The present initiative is the first attempt to conduct a study on the Home gardens of the Reang tribe of Tripura. From the above discussions, it was revealed that production system in Home Gardens of the study area was livelihood requirement and traditional knowledge, besides these they have additional income from Home Garden plant products.. They are practicing Home Gardens mainly to ensure food security and folk health care besides supplementing their income. This is also helping the Home garden owners in maintaining well being of their family.

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