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# THE CITIES OF THE AMERICAS IN MODERN TIMES: A CASE STUDY ON TOPONYMY

**ABSTRACT.** During the 19<sup>th</sup> and 20<sup>th</sup> centuries many Italian migrants set out for the Americas, where peoples from other European countries, such as Spain, Portugal, France, Germany, England, Ireland etc. had already established themselves. We have to make a distinction between the migration typology of North and of South America. In North America the origin of the migrants was predominantly England and France, while in South America the first migrants were mainly Spanish and Portuguese.

Different reasons should explain place names in the United States of America: (i) early presence of tribes and villages (a) Loan Translations, (b) Folk-etymologies; (c) Terms associated with Native American Culture and History, etc. (ii) place names referring to saints and religious sites, and names of distinguished persons (San Francisco, Washington respectively); (iii) the languages of the colonists and their place of origin (English, Spanish, French etc); (iv) classical and literary references (we can mention Athens in Georgia (a university city), Athens in Ohio (another university city)); (v) mangling of European city names (in Maryland a patent was made out early as 1677 for a place to be called by the common English name Burleigh. Later it was spelled Berlin, although still accented on the first syllable); (vi) artificial assemblages (The name Losantville derives from L (Delaware-English Licking), os the Latin "mouth", anti, the Greek ἀντί, in front of" and ville, the French town).

**KEY WORDS:** United States of America, toponymy, naming history

## INTRODUCTION

During the 19<sup>th</sup> and 20<sup>th</sup> centuries many Italian migrants set out for the Americas, where peoples from other European countries, such as Spain, Portugal, France, Germany, England, Ireland etc., had already established themselves. These first migrants founded several towns and villages and established themselves in sites, which had been inhabited for many centuries by local populations. They found a situation almost similar to that of the ancient migrants, like the Phoenicians, Greeks and Romans who came to new lands, where they met local tribes, who of course spoke different languages and inhabited cities with often unpronounceable names.

We have to make a distinction between the migration typology of North and of South

America. In North America the origin of the migrants was predominantly England and France, while in South America the first migrants were mainly Spanish and Portuguese. The treaty of Tordesillas (7<sup>th</sup> June 1494) divided the newly discovered lands outside Europe between Portugal and Castile (Spain) along a meridian of 370 leagues west of the Cape Verde islands. Later this line was changed a little. The lands to the east would belong to Portugal and the lands to the west to Castile. On 4 May 1493 the Aragonese-born Pope Alexander VI (Rodrigo Borgia) decreed in the bull *Inter caetera* that all lands west and south of a pole-to-pole line 100 leagues west and south of any of the islands of the Azores or the Cape Verde Islands should belong to Castile. So the Portuguese occupied the present Brazil and the Spanish the other parts of

South America, also extending their power to Central America and a part of the present Southern United States.

The French occupied some territories of the North America, Canada (Québec) and of the Southern United States (Louisiana). Due to the common origins of their language, many Italian migrants preferred to settle in South America, although many of them settled in Canada and in the United States.

### THE PLACE NAMES

I want to say first of all that there is no necessary relation between the place names and the origin of the migrants. Even if we can find such a relation, it is only apparent, because people have mostly forgotten the origin and etymology of these place names. Scholarly research is needed to shed light upon the most obscure of such relations. Who knows e.g. that the name Los Angeles derives from the expression *El Pueblo de Nuestra Señora de los Ángeles de Porciúncula de Asís* (literally "The Town of Our Lady the Queen of Angels of the Porziuncola of Assisi") and that Buenos Aires derives from *Ciudad de la Santísima Trinidad y Puerto de Nuestra Señora de los Buenos Aires* (literally "City of The Holy Trinity and Harbour of Our Lady of the Fair Winds") after Our Lady of Bonaria (the Patron Saint of Sardinia). More difficult in a sense is the origin of the name San Francisco, which derives from a mission, *Mission San Francisco de Asís* (Mission Dolores). The village was founded in 1779 by the Franciscan Friars. There is another curious and less-held opinion, referred to by George R. Stewart [2008, p. 263f]: "One of the places where the Americans first settled was at Yerba Buena, so called because of a mint-like plant growing there. This little adobe-built village stood on Yerba Buena Cove which offered a good anchorage near the inner tip of the peninsula between San Francisco Bay and the ocean. Nearby were also the Mission and Presidio of San Francisco. The village, however, had the other name, was

well contended, and might eventually have grown into a large city without changing it. After the America occupation, however, a new spirit of enterprise sprang up in California, and some developers, among them the enterprising native Mariano Guadalupe Vallejo, planned a new town farther up the bay, Vallejo's wife had been Francisca Benicia Carillo, and the new town was to be named San Francisco in her honour (they said). But the more alert of the Americans of Yerba Buena suddenly saw through this subterfuge. Obviously these wily promoters were trying by means of a name to make the world think that their new town was the chief place on the Bay... On January 23, 1847, the Alcade... issued an explicit statement...."to prevent confusion and mistakes in public documents.. it is hereby ordered that the name of San Francisco shall hereafter be used in all official communications". The disappointed promoters, thus forestalled, took another of Señora Vallejo names, and founded Benicia, which (for lack of a good name or other reasons) never flourished".

Such a reference clearly explains the difficulties in giving places names in the New World, due to different powers: (i) of the Church with its missions; (ii) of the colonizers, e (iii) of a prominent local personality.

### THE NAMING

Different reasons should explain place names: (i) early presence of tribes and villages; (ii) place names referring to saints and religious sites, and names of distinguished persons (iii) the languages of the colonists and their place of origin; (iv) classical and literary references; (v) mangling of European city names; (vi) artificial assemblages.

#### *Early presence of tribes and village*

William Bright [2004] lists a long list of Native American place names divided into several types:



(Source: Zelinski, 1967)

a) Loan Translations, which “are terms that, instead of attempting to reproduce the sounds of an American Indian original, attempt to reproduce the meaning”. For instance, the name *Black Hills* in South Dakota represents a loan translation from Lakhota (Sioux) *pahá-sapa*, literally “hill(s)-black”. In many cases, French or Spanish acts as an intermediary language in translating a native American name into English. For example, the place name Des Plaines in Illinois is an English adaptation of a French name – not with the apparent meaning “of the plains” but rather des pleines ‘of the maple trees’...which is in turn a translation of an Algonquian original”;

b) Folk-etymologies. For example, the place name Seneca, applied to an Iroquoian nation of New York, was derived from a word which meant ‘wood-eaters’ and was applied by white settlers as a placename, with the spelling and associations to Roman philosopher and dramatist Seneca. “This process of folk-etymology has sometimes taken place first in French or Spanish,

with the result then being passed into English”;

c) Terms associated with Native American Culture and History. The names are not based directly on Indian Names, but rather refer to cultural items associated with Native American Culture. For example, *Fence*, occurring in Michigan and Wisconsin, refers to traditional fish-weirs built by Indians or to brush enclosures used to trap game [Bright, 2004, p. 5, Vogel, 1991, p. 115]; *calumet* “Indian pipe” found as placename in Illinois, is from a dialectal French word<sup>1</sup>;

d) Invented words: “Especially in areas close to political boundaries, placenames have often been invented by combining parts of names already in use – which may, of

<sup>1</sup> The word *calumet* derives from the ancient Greek κάλαμος, which means cane. In Latin, *calamus* and in Arabic القلم (Al-Qalam, which is also the name of the Sura 068 (LXVIII)). The name means *cane*, but also all that is made of cane, like the pen. As Bright notes [2004, p. 11], *Calumet* was understood as a word for “Indian pipe”, borrowed from a Norman French dialect word, related to Standard French *chalumeau* ‘type of flute’.

course, have Indian origin. As well-known example is Texarkana, which combines the words Texas, Arkansas<sup>2</sup>, and Louisiana; the first two come from native American sources" [Bright, 2004, p. 5];

e) Bogus words. "Some placenames have been coined from non-Native American elements to resemble Indian words..." as that of a "small stream in new Mexico" which "is called Beechatuda Draw...Other examples represent more deliberate attempts to mystify; again in New Mexico, the placenames Zuzax, supposedly referring to an obscure Indian tribe, was actually a complete invention" [Bright, 2004, p 5f];

f) Traditional Native American Placenames: for example, the name of the city Chicago probably means 'wild onion place', Tucson, 'black (mountain) base'. We do not know whether an ostensible Indian placename may have a European source. Galice is the name of an Athabaskan Indian tribe, a settlement and a creek in Oregon, but some scholars guess that it is a French surname [Bright, 2004, p. 9];

g) Native American Derivations: some are names of prominent Indian individuals, such as *Seattle* and *Spokane*. *Seattle* derives from the name *Sealth*, a Dkhw'Duw'Absh (Duwamish) chief, also known as *Sealth*, *Seathle*, *Seathl*, or *See-ahth*. *Seattle* is in King County (Washington) and in Alaska (on Hagemester Island: *Seattle Creek D-6* in US Geological Survey), the name *Spokane* comes from the *Spokane* dialect of *Salishan*; the Native American Name is *spoqín* (meaning "children of the sun" in *Salishan*). "The place name also occurs, for example, in Alaska (*Juneau C-6*), Ore. [Oregon] (*Curry Co.*), and S. Dak. [South

*Dakota*]<sup>3</sup> a name applied to a New England Algonquian group, which probably means 'at the big hill'. This name also occurs in Maine, Illinois, which refers to an Indian people; etc. The name of the State of Canada, is taken from French, which took in turn from a word meaning 'settlement, town' in *Laurentian*. The word has been applied as a placename in many parts of the United States, as *New York* (*Fulton County*), *Maine* (*Cumberland County*), and *Wisconsin* (*Buffalo County*) (*Custer Co.*)" [Bright, 2004, p. 459];

h) Pidgin Derivations: mixed languages between Native American people and European immigrants, such as the trade language of the *Chinook Jargon* of the Pacific Northwest, which contains elements of many Native American languages (especially *Chinookan* and *Salishan*) as well as French and English: these names may come from pidgin, which in turn takes them from a Native American language: e.g. *Skookum*, occurring in many northwestern placenames, which means 'strong, powerful', or they may come from pidgin, but have their ultimate origin in a European language, as e.g. *Siwash* occurring in many northwestern placenames. It represents the *Chinook Jargon* word for 'Indian', borrowed from French *sauvage*;

i) Transferred Derivations: I) common nouns used in English are often carried from one region to another; II) For example *Milwaukee*, transferred from *Wisconsin* to *Oregon*, and *Chicago*, as applied to *Port Chicago* in *California*, were originally *Algonquian* placenames. Some North American names are borrowed from Latin American sources: *Mexico*, *Lima*, and *Peru* are frequent in the

<sup>2</sup> A village and tribe, *Arkansa*, are recorded in a French context in 1673. The French added the *s* as a plural to indicate members of a tribe. After the region was Americanized (early 19<sup>th</sup> century) an approximation of the French pronunciation was kept, and the name *Arkansaw* was used in the Act creating the territory. The French pronunciation now prevails for the state, but *Arkansas* City keeps the second syllable accentuation, and *Arkansaw* uses the older spelling (Stewart George R., 1970, p. 22).

<sup>3</sup> The names of many States of the United States of America refer to some Native American Peoples, such as *Dakota*, which means 'allies', 'friendly' [Bright, 2004, p. 131], *Michigan*, which comes from an Old *Ojibwa* (Algonquian) word \* *meshi-gami* 'big lake' [Bright, 2004, p. 283], *Idaho*, which comes from the *Kiowa-Apache* (Athabaskan) word *idaahę* 'enemy' [Bright, 2004, p. 177], *Ohio*, from *Seneca* (Iroquoian) *ohi:yo*, a proper name derived from *ohiyoh* 'good river' [Bright, 2004, p. 344], *Oklahoma*: the name of this State, coined by *Allen Wright*, a *Choctaw* scholar, means 'red people' from *Choctaw* (Muskogean) *oklah* 'people' and *homma* 'red'. This placename was transferred to other states (e.g. *Illinois*, *St. Clair County*; *Massachusetts*, *Dukes County*; and *Oregon*, *Clatsop County*), *Massachusetts*.

United States [Bright 2004, p. 10]; III) Some names which are thought to be of Indian origin have European origins: as noted above, *Calumet* (Illinois, Michigan), understood as a word for 'Indian pipe' is borrowed by English from a Norman French dialect word;

j) Dubious Native American Terms, which may be: (i) Complete inventions, as the name Lake Itasca coined by Henry R. Schoolcraft, who gave imaginary Indian names to several counties in Michigan: Itaska comes from an ungrammatical Latin phrase: *veritas caput*, while the correct Latin is *verum caput* (= true head(waters)); (ii) Names derived from literary works, like Henry Wadsworth Longfellow's *Hiawatha*; (iii) Some place names are based on English words that are supposedly literal translations of Native American concepts, but they may be of varying authenticity: e.g. *Medicine Lodge Mountains* (Kansas) may translate a Native American term or may not; the new settlers could simply have coined the term *pipestone*, as a common name, as in *Pipestone Creek* (Wisconsin), which is supposed to translate an Algonquian word for a type of stone from which the Indians made pipe-bowls. The term *pipestone* was later applied as a placename [Bright, 2004, p. 11]; (iv) Some cases have still dubious origin;

k) Adopted European Names: Some names reflect cases where English has borrowed an Indian personal name, which was borrowed in turn from a European language: it is e.g. the case of Stanislaus (river and county in California), which is the English adaptation of Estanislao, the Spanish baptismal name of an Indian, who became famous for his successful raids on Spanish missions<sup>4</sup>; other names are simply loan translations; some placenames are only ambiguously of Indian origin;

l) English < Spanish/French < Indian: we can recognize many placenames which are borrowings from Spanish or French common names: e.g.: *Abalone Point* (California) reflects California Spanish *aulón(es)*, from Rumsen *aulon*; *Temescal Canyon* (California), from Mexican Spanish *temescal* 'sweathouse', from Aztec *temaaxcalli*; *Temetate Creek* (California), from the Mexican Spanish word *temetate* 'stone grinding-slab', perhaps from Aztec *temetlatl*; names borrowed by English through Spanish from Latin America, like Mexico (Missouri) and Lima (Ohio, originally from Lima, in Peru); *Quebec* and *Ontario*, which derive from Iroquoian or Algonquian languages that are spoken in both Canada and the United States; l) Hybrid Indian Names: e.g. *Texarkana*, as noted above, and *Clackamette* (Oregon, from *Clackamas* plus *Willamette*).

In Latin America few names stand for native peoples. The Spanish conquistadores almost thoroughly killed off the native cultures and peoples<sup>5</sup>. In addition, in Latin America, the empires of the Aztecs, Incas and the Maya culture occupied large territories, except for Brazil and Argentina, where many native tribes lived. I can quote for example the place names of Nazatlán (which in the uto-aztec language means "place of deer"); Tecuala, a Castilian word for a Tertiary word, which means "many wild animals; Tamazuchele (Tam-uxum-tzale), which comes from a Huastec language and means "Place of the Government". It was the Huastec capital in about the 15<sup>th</sup> century. The place name of Caracas comes from the name of the local native people. The place name of Lima comes from the *aymara* language (*lima-limaq*, "yellow flower") or from *quechua* language (*rimaq*, "speaker") for its river, the Rímac. The name Tegucigalpa shows an evident native origin, particularly Nahuatl. The name Managua originates from the term *Mana-ahuac*, which in the indigenous *Nahuatl* language translates to "adjacent to the water" or site "surrounded by water".

<sup>4</sup> Estanislao (c. 1798–1838) was an indigenous *alcalde* of Mission San José and leader of the Lakisamni tribe of the Yokut people of Northern California. He led bands of Native Americans against the Mission establishments.

<sup>5</sup> The names of some states of the United States are Spanish, such as Montana, Nevada etc.

*Placenames referring to distinguished persons, saints and religious features*

The city and the State of Washington were named after the *pater patriae* George Washington<sup>6</sup>. Another President of the United States, Abraham Lincoln<sup>7</sup>, was commemorated in the United States when he was still only a Springfield lawyer, and he, who became the second hero of the nation, was not a soldier: in 1853 three men laying out a site in Illinois hired him to prepare some papers, and called the place Lincoln [Stewart, 2008, p. 299].

After the discovery of the Americas, many missions were founded by the different Christian Churches, according to the tasks of the Society of Jesus founded by Ignatius of Loyola. The Society had the task of limiting the spread of the Non-Catholic Christian Churches, after the Catholic Counter-Reformation of the Council of Trent (between 1545 and 1563). Many religious structures and cities were founded by missionaries and explorers in the Americas, especially in the areas where the Spanish colonizers established themselves. California was one of the most culturally, politically and linguistically diverse areas in pre-Columbian North America. One-third of all native Americans in what is now the United States lived in California (from 100,000 to 300,000), divided into many tribes, such as the Cumash, Pomo and Salinan. The first European expedition landed in California was led by Portuguese captain João Rodrigues Cabrilho, in 1542, on behalf of the Spanish Empire. After him California was explored by Francis Drake in 1579. Sebastián Vizcaíno explored and mapped the coast of California in 1602 for New Spain. From 1769 Spanish Franciscan missionaries founded little

villages on paramount areas of the Northern Spanish California in the strict sense of the word (the present Baja California). After the independence of Mexico from Spain the titles of these Californian missions were transferred to the Mexican government and suddenly were no longer used and abandoned. Since the early 20<sup>th</sup> century the region, because of its strategic position, was claimed by the English, French and Russians. In 1812 Russia founded Fort Ross. In 1847 the large-scale immigration of gold prospectors from the United States triggered off a war with Mexico. At the end of this war the region was split between these two States: Baja California passed to Mexico and the western part of Alta California became the 31<sup>st</sup> US State of California, on September 9, 1850.

The name *California* is most commonly believed to have derived from a fictional paradise peopled by Black Amazons and ruled by Queen Calafia. The story of Calafia is recorded in a 1510 work *The Adventures of Esplandián* written by the Spanish writer Garci Rodriguez de Montalvo. Montalvo describes the kingdom of Queen Calafia, as a remote land inhabited by griffins and other strange beasts, but rich in gold (Chapter CLVII of *The Adventures of Esplandián*): "Know ye that at the right hand of the Indies there is an island called California, very close to that part of the Terrestrial Paradise, which was inhabited by black women without a single man among them, and they lived in the manner of Amazons. They were robust of body with strong passionate hearts and great virtue. The island itself is one of the wildest in the world on account of the bold and craggy rocks" [Putnam, 1917, p. 306]<sup>8</sup>.

Both in Baja California and in Alta California many names of cities and villages refer to names of saints and religious symbols. The

<sup>6</sup> The name of family was Wassington. Sir William de Wassington, a knight who held a village under King Henry II. Later the family name was merely Washington, and a John Washington was wounded at Agincourt. One of his descendants at eighth remove, another John, came to Virginia, and a great-grandson of this latter John was named George [Stewart, 2008, p. 164].

<sup>7</sup> The place name Lincoln in Argentina (founded on July 19, 1865) was chosen as a tribute to the recently assassinated 16<sup>th</sup>-President of the United States (1861 to 1865), and enactor of the Emancipation Proclamation.

<sup>8</sup> Several states of United States have Spanish names, such as Nevada, Arizona, Florida. Other names are French, such as Louisiana. Louisiana was named after Louis 14<sup>th</sup>, King of France from 1643 to 1715. Once part of the French Colonial Empire, the Louisiana Territory stretched from present-day Mobile Bay to just north of the present-day Canada border, and included a small part of what is now south-western Canada.

capital of California is named Sacramento, like the homonymous river<sup>9</sup>. In 1808, explorer Gabriel Moraga during a journey to search out sites for the construction of missions, was the first foreigner to see the river clearly and named it *Rio de los Sacramentos*, or “River of the Blessed Sacrament”. The Sacramento river meets the San Joachim river<sup>10</sup> in the Sacramento-San Joaquin River delta or California Delta. The Swiss immigrant John Sutter Sr., his son, John Sutter Jr. and James W. Marshall founded Sacramento city, which grew quickly thanks to the protection of Sutter Fort, which was established by Sutter in 1839. Many names of the cities of California are saints’ names, like Santa Rosa, San Mateo, Santa Marta, San Diego, Santa Barbara<sup>11</sup>, San Francisco, Los Angeles<sup>12</sup>, Santa Catalina<sup>13</sup>, San Pedro<sup>14</sup> etc. In Latin America the names of saints and religious symbols are numerous: I do not think there is any need to list these names: Asunción, São Paulo, many Santiago, San Antonio, Santa Cruz, San Fernando, San Juan, San Antonio, Veracruz, Santo Domingo de Guzman, San Cristobal las Casas etc.

From 1769 until the independence of Mexico in 1820, Spain sent missionaries and soldiers to Alta California who created a series of missions run by Franciscan priests. They also operated *presidios* (forts), *pueblos* (settlements), and *ranchos* (land grant ranches), along the southern and central coast of California. Father Junípero Serra founded the first missions in Spanish upper *Las Californias* starting with Mission San Diego de Alcalá in 1769. Through the Spanish and Mexican eras they eventually comprised a

<sup>9</sup> From 1777 to 1849 Monterey was the first capital of California. In Mexico another Monterrey (with two *r*) is situated close to the US boundary.

<sup>10</sup> After the name of the father of the Virgin, according to the tradition.

<sup>11</sup> San Diego (after the name of the explorer Sebastián Viscaíno’s flagship) and Santa Barbara became the names of missions, and then of the cities [Stewart, 2008, p. 29].

<sup>12</sup> Los Angeles and San Francisco have been discussed above.

<sup>13</sup> Santa Catalina, who is St. Catherine, patron of Christian philosophers.

<sup>14</sup> San Pedro was chosen because on November 28<sup>th</sup>, the day of San Pedro on the calendar, the place was discovered. But this was not the day of the great St. Peter, keeper of the keys, but of a lesser one, martyred in Constantinople.

series of 21 missions to spread Christianity among the local Native Americans, linked by *El Camino Real* (“The Royal Road”). The missions introduced European technology, livestock, and crops.

The Spanish Franciscaners and also other missionaries became friendly with the natives of the region (Timucúa, Calusa and Apalache). In the 17<sup>th</sup> century Francisco de Pareja, a Franciscan friar worked a long time in Georgia and in the mission of San Agustín. He wanted to spread Spanish culture and the Catholic faith. Before 1675 the territory of Florida had four missions, named “provinces”.

The Mormons also had an influence in naming places in North America [Meinig, 1965, pp. 191–220] “The Mormons gave no more Biblical names than other people, but they had a treasure-store in the Book of Mormon, Joseph Smith had recorded many names, some the same as those of the Bible, others like them but a little different. So, besides Desert, towns sprang up for Moroni the angel, Alma and Nephi the prophets, and Lehi the king, and many others” [Stewart, 2008, p. 262]. According to the custom of the Mormons, several towns, such as St. John and St. George, were named not for any apostle or any dragon-slayer, but for John Rowberry and George A. Smith, good Mormon Church officials.

Saint Laurence Gulf, in Canada, was named by Jacques Cartier, whose ship on August 7, 1535, was caught in a “stormy and contrary wind”. Because he found by good chance anchorage in a bay and his ship was safe, in thankfulness and piety he named it after St. Lawrence, whose day it was.

It is well known that name of the Brazil’s former capital Rio de Janeiro (from 1763 to 1960) recalls the date of anchorage by the European explorers who first encountered Guanabara Bay on 1<sup>st</sup> January 1500, by a Portuguese expedition under Gaspar de Lemos, the captain of a ship in Pedro Cabral’s fleet, or under Gonçalo Coehlo. The Florentine

explorer Amerigo Vespucci participated as observer in the same expedition.

Pilgrims is a name commonly applied to early settlers of the Plymouth Colony in present-day Plymouth, Massachusetts, United States, with the men commonly called Pilgrim Fathers.

The name of Amerigo Vespucci, as it is well known, led to naming all America, while the name of Cristobal Colon (or Columbus) led to naming many states and cities in both Americas.

Boston's early European settlers had first called the area *Trimountaine* but later renamed it *Boston* after Boston, Lincolnshire, England, from which several prominent colonists had come. The renaming, on September 7, 1630 was by Puritan colonists from England who had moved over from Charlestown earlier that year in quest of fresh water. Most often the settlers asked for the name of a place where some of them had lived. Cambridge was named because of the college founded there. The name was Cambridge instead Oxford because Cambridge was the more Puritan of the two English universities.

Latin America is rich in religious names of saints and signs. Almost all catholic saints are represented, for the custom of naming the places after the saint whose name day fell on the day of the foundation or discovery. The complete name of La Paz is *Nuestra Señora de La Paz*. The name commemorated the restoration of peace following the insurrection of Gonzalo Pizarro and fellow conquistadors four years earlier against Blasco Núñez Vela, the first viceroy of Peru. Other names are for example: San Juan, San Pedro de Lloc, in Peru; Trinidad, Conception, Santa Corazon in Bolivia; São Manuel, São Miguel, Santa Filomena, São Felix, Santa Maria, Santa Cruz, Santa Rosa in Brazil; Santo Domingo de Guzmán, in the Dominican Republic, Rosario and Santa Fe in Argentina. On the name Yucatán, Fray Toribio de Motolinía wrote: "Hay en estas montañas [de Nueva España o hasta el Golfo dulce] mucha cera y miel,

en especial en Campeche; dicen que hay allí tanta miel y cera y tan buena como en Safi, que es en África. A este Campeche llamamos los Españoles al principio cuando vinieron a esta terra, *Yucatán*, y de este nombre se llamó esta Nueva España, Yucatán. Mas tal nombre no se hallará en todas estas tierras, sino che los Españoles se engañaron cuando allí allegaron, porque hablando con los Indios de aquella costa, a lo que los Españoles preguntaban, los Indios respondían: "*tectetán, tectetán*", que quiere decir: "no te intiendo, no te intiendo". Los cristianos corrompiendo el vocablo y no entendiendo lo que los Indios decían, dijeron: "*Yucatán se llama esta tierra*", y lo mismo fue en un cabo que allí hace la tierra, al cual también llamaron cabo de Cotoch; y cotoch en aquella lengua quiere decir "casa". [Toribio de Motolinía, 1985, p. 332]. This is an example of a misunderstanding of a native American by a European. The European mistakes the expression "*tectetán, tectetán*", which means "I do not know" for a place name.

The work of Fray Toribio de Motolinía is a proof of the evangelical mission of the Franciscans in Latin America, but also of the native place names and languages. Fray Toribio de Motolinía frequently translates the native place names with Spanish terms. Cordoba in Argentina was inhabited by native Comechingones. In 1577 the Lieutenant Governor, Don Lorenzo Suárez de Figueroa, planned the first layout of the city as a grid of seventy blocks. In 1599, the religious order of the Jesuits arrived in the settlement. Another Cordoba is in Andalusia, Spain. Some place names in the Americas are linked to sacred cities such as Betlem (in Brazil Belém), Jerusalem, which was included in the Phelps and Gorham Purchase. It was first settled around 1791. Among the earliest settlers were the evangelist Jemima Wilkinson and her congregation.

On February 28, 1681, Charles II granted a land charter to William Penn to repay a debt of £16,000 owed to William's father, Admiral William Penn. The King named it Pennsylvania in honour of William Penn "brotherhood of Penn". Since Penn, an early Quaker, was a



scholar of the classics, he took the name of the State capital Philadelphia from Attalus II, King of Pergamon and the founder of the modern-day Turkish city Antalya, surnamed Philadelphus “the brother-loving, brotherly”. Penn must have thought of the literary meaning of the Greek word φιλαδέλφεια, as St. Paul used it in Romans: “Be kindly affectionate one to another with brotherly love, outdo yourself to respect one another”. Philadelphia was laid out four-square, like the heavenly Jerusalem. According to Quaker use, the streets were named, beginning at the eastern boundary: First Street, and so successively, making the numbers into names. It was the custom of Quakers to call Sunday, First Day [Stewart, 2008, p. 104 f].

### *Languages of colonists and their place of origin*

After the discovery of the Americas the first colonists came from various regions of Europe. Since the Mediterranean Sea had lost its importance to the advantage of the Atlantic, the colonists were predominantly English, French, Dutch, Spanish and Portuguese, from the major European Powers of that time. Although Spain, France, Sweden, and the Netherlands all had competing claims to the region, none of these prevented the English from becoming the first European power to successfully colonize the Mid-Atlantic coastline. In 1607 the English colonizers of the London Company entered Chesapeake Bay and founded Jamestown on the James river (after King James I): it was the first English colony in the United States, named Virginia, after Queen Elizabeth I, sometimes called The Virgin Queen.

The Thirteen Colonies, as of 1775, founded between 1607 (Virginia) and 1732 (Georgia), stretched from New England to the northern border of the Floridas (British East and West Florida). They were dominated by Protestant English-speakers.

Earlier expeditions had been made by the Spanish to what is now Georgia (1526–

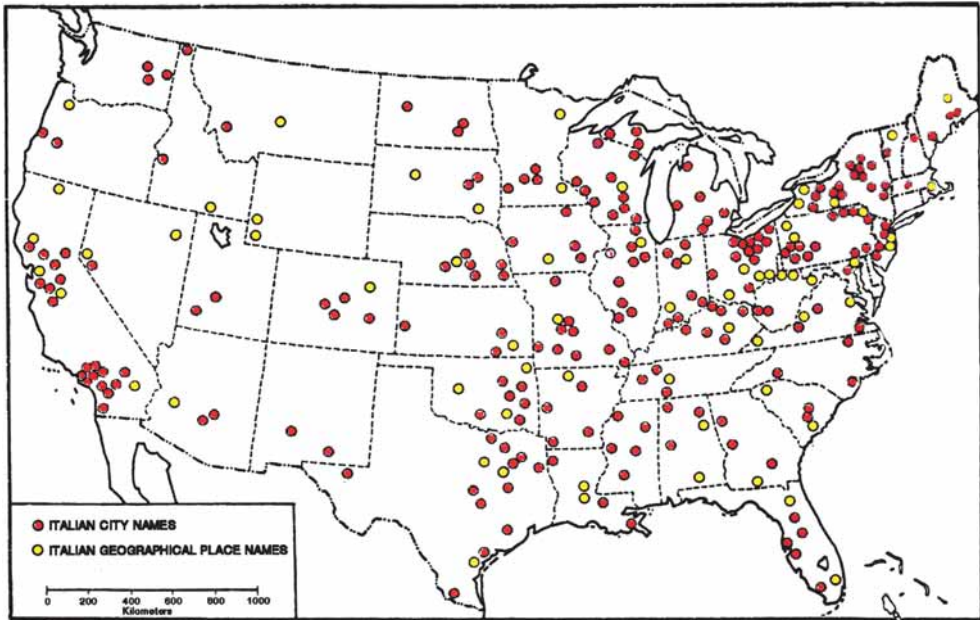
27); in Georgia (between 1568 and 1684), South Carolina (1566–87), North Carolina (1567–68)<sup>15</sup> and Virginia (1570–71); and by the French in South Carolina (1562–63). The Spanish founded the colony of Spanish Florida in 1565, while the French were establishing settlements in what is now Canada (Charlesbourg-Royal briefly occupied 1541–43; Port Royal in 1605). The non-English European colonization of the Americas was also underway in New Netherlands, New France, Essequibo, colonial Brazil, Barbados, the Viceroyalty of Peru, and New Spain.

In the early 18<sup>th</sup> century, England had consolidated its colonial power, enlarging it in the North American territories. Due to a political and religious crisis, many English political dissidents and victims of religious persecution moved to the new colonies of America: the majority of them were puritans, jailbirds and adventurers.

New Amsterdam (Dutch: *Nieuw-Amsterdam*) was a 17<sup>th</sup>-century Dutch settlement established at the southern tip of Manhattan Island, which served as the seat of the colonial government in New Netherland territory. It was renamed New York on September 8, 1664, in honour of the then Duke of York (later James II of England) after it was traded to the English along with the rest of the Dutch colony in exchange for control of the Spice Islands.

At the end of the Seven Years’ War (1756–1763) when the French ambitions of power in America had been cancelled, the Britannic Empire had spread over the whole of Canada and the territories to the east of the Mississippi. The English colonies were thirteen, approximately gathered in four main areas: in the north, New England, with

<sup>15</sup> *Carolinas*, named in honour of King Charles I of England, were divided into SC and NC in 1729. The capital of North Carolina is Charlotte. Charlotte and its resident county received its name in honour of Charlotte of Mecklenburg-Strelitz, who had become queen consort and wife of George III; the capital of South Carolina is Raleigh named for Sir Walter Raleigh, sponsor of Roanoke, the “lost colony” on Roanoke Island in present-day Dare County. *Dare County* is named in honour of Virginia Dare, the first English child born in America.



(From Oneto, 1978)

Rhode Island, New Hampshire, Connecticut, Massachusetts, where the descendants of the original religious migration lived; in the Middle, the Mid-Atlantic, with Maryland, Delaware, New Jersey, Pennsylvania, New York, where the English were intermixed with the successors of the German, Dutch and Irish colonists who landed on these coasts in the 17<sup>th</sup> century; finally the southern colonies: North Carolina, South Carolina, Georgia<sup>16</sup> and Virginia where the agricultural aristocracy, of Anglican persuasion, used slaves caught in Africa on a massive scale.

In spite of the remarkable Italian presence in the United States, Italian place names there are very few. Of 40,487 place names listed in the *United States Official Postal Guide*, only 325 (0.8 per cent) are Italian geographical names.

But not all of them are of a clear attribution. Perhaps about another hundred place names have tenuous links with Italy [Oneto, 1978, pp. 737–752].

The Italian place names (except for classical names) are 57 Etna, 54 Rome, 14 Syracuse, 8 Rubicon, besides a hundred others, mostly vanished over the centuries [Oneto, 1978, p. 742]. The asset of many Italian names was their brevity, like Como, Elba, Lodi, Milan etc. The name of Sicily is to be found inland, in Louisiana. We do not know if the name Ravenna is associated with its Italian namesake. Perhaps it derives from the word *ravine*, which got confused in its pronunciation: the city, in Texas, is situated between two ravines [Oneto, 1978, p. 750].

#### *Classical and literary references*

In the United States in particular, there are city names referring to classical cities: we can mention Athens in Georgia (a university city), Athens in Ohio (another university city). Ancient Greece, particularly Athens, replaced Cambridge and Oxford as an ideal of culture

<sup>16</sup> Georgia was named after King George II of Great Britain. The name of its capital, Atlanta, was coined by J.E. Thomson, railroad-builder, for the terminus of the Western & Atlantic Railroad, from 'Atlantic' apparently under the assumption that this was the feminine form, thus conforming to the general idea that names of towns fittingly end in *a*. In Idaho the name commemorates the battle of 1864. In Minnesota the name is applied fancifully, because the undulating plain was thought to resemble the Atlantic Ocean [Stewart, 1970, p. 27].

and learning. Sparta stood for valour and moral integrity. The place name Rome is very widespread in the United States: in Georgia, Illinois, Indiana, Iowa, Kentucky, New York, Ohio, Pennsylvania, Tennessee, Wisconsin and Texas. This was because Rome had austere cast off the rule of its kings, adopted republican institutions, and set out upon a glorious career. But some classical names were reproduced more or less accidentally. Mantua in New Jersey came from a local tribal name meaning “frog”, but assumed the exact spelling of the birthplace of Virgil. On his epitaph are the following verses: *Mantua me genuit, Calabri rapuere, tenet nunc Parthenope; cecini pascua, rura, duces*<sup>17</sup>: several towns in United States were called Augusta from Queen Augusta, George II’s wife, but this name evoked Roman foundations, such as Augusta Agrippina (Cologne), Augusta Taurinorum (Turin), Augusta Treverorum (Trier), etc. In 1748 the Virginia Assembly authorized the town of Alexandria. The name was for the Alexander family, local plantations owners, but was also that of many ancient cities founded by Alexander the Great [Stewart, 2008, p. 183].

The towns of Troy in Michigan and New York states had been overcome only by base stratagems, and had perished nobly in flames. Of course the reference is to Homer’s works.

Hiawatha, the poem of Longfellow, has already been mentioned. The name of Seneca Lake (after the Roman philosopher Seneca) became for the Dutch Sinneken and in various other forms and then passed to English with the forms Sinnegar or Senniky. This name shows all the forms in which a name can be passed from language to language – by transference, translation, and false etymology [Stewart, 2008, p. 184]. A Commission established on July 3, 1790 stated that regions to be settled by veterans should bear military names: Lysander, but not Hannibal, because he fought against the Republic, not

for it, and also they should bear the names of the heroes of the Roman Republic, including Cato, Camillus, Cicero, Manlius, and Marcellus. After that, they admitted Aurelius and Romulus, an emperor and a king. They added also four more republican heroes – Scipio, Sempronius, Tully, and Fabius. The last ten names mingled Latin, Greek, and English poets, philosophers and warriors: Ovid was followed by Milton, Locke, Homer, Solon, Hector, Horace and Ulysses. Then came Dryden and Virgil, with Cincinnatus at the end for a final republican gesture. In using both Tully and Cicero they even named two places for the same man: Marcus Tullius Cicero [Stewart, 2008, p. 185 ff.].

The place name Utica in New York, in 1798, comes from an idea of Erastus Clark, graduate of Dartmouth College with classical training, who suggested naming this city in honour of the Roman Utica in North Africa, one of the last cities to hold out against Julius Caesar. Other classical names are, for example: Phoenix, from the mythical bird, and Memphis, after the ancient Egyptian capital.

According to Zelinsky [1967, p. 464], “the most persuasive evidence pleading the American’s image of himself as the reincarnated Athenian or Roman is the number, range, and persistence of classical place-names...no other territory colonized by Europeans has anything in its toponymy even faintly resembling the United States situation, with the marginal exception of a few score Brazilian names”. Also, many place names derive from the plays of William Shakespeare, such as *The merchant of Venice*, *The two gentlemen of Verona* and *Romeo and Juliet*. The place names are, for example, Modena, Rialto, Verona. In Florida two neighbouring cities are called Romeo and Juliet [Oneto, 1978, p. 750].

Place names can be transported by migrants to other areas of the world, as Italian emigrants did in Argentina, Brazil, the United States and Australia and in many other countries. Flavia Cristaldi [2015, p. 51 f.] points to the Italian colonists in

<sup>17</sup> Translation: “Mantua begat me, the Calabri (= Salentum people) took me away, now Naples keeps me; I sing of pastures, fields, commanders”.



(Source: Zielinski, 1967)

Rio Grande do Sul, who created a new landscape of vineyards, and to many towns (Nova Bassano, Nova Brescia, Nova Milano, Nova Padova, Nova Treviso, Nova Roma do Sul, São Joao do Pôlesine o Vale Vêneto), which recalled Italian cities and regions; but, since the towns had no religious associations, their names changed.

However, the contribution of Italian migrants to naming towns in Americas was limited, in spite of the paramount contribution of Italians in peopling Americas. We can document a town named New Napoli close to Vineland in the county of Cumberland, in New Jersey [Tuccimei Paolo, 1910, pp. 336–342], but in the United States the town of Naples, founded in 1905, was so named because its seaside location resembled that of the Italian city. The central street of this town is called the Toledo [Oneto, 1978, p. 750]. Another town, Nuevo Torino, is situated in Las Colonias, Santa Fe, Argentina. Nova Trento was founded in Brazil on August 8<sup>th</sup>, 1892 by migrants coming from Trentino, Italy, when this region was ruled by the Austrian-Hungarian Empire.

### *Mangling of European city names*

I would like to give only two significant examples.

In Maryland a patent was made out early as 1677 for *a place* to be called by the common English name Burleigh. Later it was spelled Berlin, although still accented on the first syllable. So also the towns in New England thus spelled and pronounced were more likely from some Burland or Birling, because not until well after 1700 did the present German capital grow to be a place of enough importance to be well known in the colonies [Stewart, 2008, p. 115].

The name Verona, which is in the Shakespeare's comedy *Romeo and Juliet*, is a deformation of Vernon, in California, and of the family name Veronica, in Nebraska [Oneto, 1978, p. 750].

### *Artificial assemblages*

On the Ohio River a town grew up opposite the mountain of Licking Creek. Its name combines a translation with an adoption of the Delaware *mahoning*, "at the salt lick". The

name Losantville derives from *L* (Delaware-English Licking), *os* the Latin "mouth", *anti*, the

Greek *ἀντί*, in front of" and *ville*, the French town [Stewart, 1970, p. 186]. The development of factories at the end of the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> led to the creation of new artificial names, such as Weslaco (from the W.E. Steward Land Company), Latexo (from Louisiana-Texas Orchards), Alcoa (from Aluminium Company of America; Gamarco (from Gallup American Coal Company. The suffix *-co* indicates a company town (Stewart Georg R., 1970, p. 363). About 1870 a steamboat plying the Red Rivers and thus serving territory

in three states was named the *Texarkana*, (see above) The name was used for some locally manufactured bitters [Stewart, 1970, p. 363 f.]

## CONCLUSION

The reading of the names of cities in the United States is how to read the history: names of cities and villages inhabited by indigenous peoples; names of settlers who gave the names of their hometowns. But also names related to culture and literature. In no country in the world do we find such a mixture of place names mainly due to the stratification of relatively quickly migrations. ■

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## THE JEOPARDIZED SITUATION OF ELECTRONIC WASTE IN BANGLADESH: CAN CUSTOMIZED POLICY APPROACH SOLVE THE CHALLENGE?

**ABSTRACT.** Electronic waste (e-waste) is one of the fastest-growing pollution problems worldwide given the presence of a variety of toxic substances which can contaminate the environment and threaten human health, if disposal protocols are not meticulously managed. In Bangladesh almost 2.7 million metric tons of e-waste generated per year. Of this amount only 20 to 30 percent is recycled and the rest of the waste is released in to landfills, rivers, drains lakes, canals, open spaces which are very hazardous for the health and environment. Since Bangladesh is in the stream of rapid technological advancement, it is seldom to take necessary steps to avoid the future jeopardized situation because of e-waste. The current practices of e-waste management in Bangladesh suffer from a number of drawbacks like the difficulty in inventorisation, unhealthy conditions of informal recycling, inadequate legislation and policy, poor awareness and reluctance on part of the corporate to address the critical issues. The paper highlights the associated issues and strategies to address this emerging problem, analyses the policy and its gaps. Therefore, this paper also suggest that e-waste policy development may require a more customized approach where, instead of addressing e-waste in isolation, it should be addressed as part of the national development agenda that integrates green economy assessment and strategic environmental assessment as part of national policy planning. Finally this work also suggests some alternative strategies and approaches to overcome the challenges of e-waste.

**KEY WORDS:** E-waste, Bangladesh, Policy, Strategy and Approach.

### INTRODUCTION

Electronic waste or e-waste – waste from electronic and electrical equipment is a rapidly growing market, with 72 billion tons estimated to be generated annually worldwide by 2017 [Arora R., 2008]. Obviously, the digital (r)evolution has resulted in a significant increase in the quantity of e-waste but the quality of the waste has also changed with the use of hazardous substances. With massive growth of electronics and hardware sector, the demand of the electronics products

has been enhanced manifold. Faster change of features in the electronics devices and availability of the improved products forcing the consumers to dispose the electronics products rapidly. This has caused generation of e-waste alarmingly.

Like other parts of the world, Bangladesh is also facing serious crisis due to growing generation of e-waste. The main challenge in Bangladesh is to create awareness of the environmental, social and economic aspects of e-waste among the public, consumers,

producers, institutions, policy makers and legislators. It is observed in recent years that large volume of e-waste is being exported from western countries to Asian countries for disposal. It seems the recycling business in western countries is becoming economically non-viable due to rising cost of manpower and availability of input materials for running the plant in full capacity. The western countries are, therefore, compelled to find out alternative destinations for disposal, where the labour cost is comparatively low and the environmental laws are not enforced so strictly.

E-waste is hazardous in nature due to presence of toxic substances like Pb, Cr, Hg, Cd and flame retardants (polybrominated biphenyls and polybrominated diphenylethers etc.). E-waste disposal mixed with solid municipal waste is posing a greater threat for environmental degradation in the developing countries like Bangladesh, where formal recycling technology is not available and non-formal operators are extracting precious metals through crude means for easy money. The extraction of metals in nonformal units is carried out by dipping printed circuit board (PCBs) in the acidic/alkaline solutions and heating/burning of PCB. These processes are harmful to the workers and to the environment, which are the major concern of e-waste management in developing countries like Bangladesh [Agamuthu P., Victor D., 2011].

While the human rights and environmental concerns emanating from the trans-boundary movements of toxic wastes and hazardous products have attracted considerable attention from scholars, activists, governments, and multilateral organizations such as the United Nations, the relatively newer dimension to this problem relates to electronic wastes otherwise referred to as 'e-wastes' in trendy parlance, which has received paltry scholarly attention thus far. Apart from urging a reconceptualisation of the electronic waste dimension to the global waste challenge in regulatory and trade terms,

the underpinning thrust of this essay is that developing countries should find pragmatic ways of handling electronic waste because of their often toxic and hazardous substances that pollute the environment, expose people to diseases, and invariably violate a whole range of human rights.

### GLOBAL SITUATION OF E-WASTE

In the 1990s, governments in the European Union (EU), Japan, the United States (US) and some other industrialized countries began to tighten the regulatory framework against electronic wastes and simultaneously commenced the setting up of electronic waste retrieval and recycling systems. However, not all industrialized countries had the capacity to deal with the steep quantity of the electronic and electrical wastes they generated.

Consequently, therefore, such industrialized countries began exporting their predicament to developing countries where laws to protect workers and the environment are non-existent, inadequate or unenforced. It was also cheaper to 'recycle' waste in developing countries, as for instance, the cost of breaking down or recycling of electronics in the US is 26 times more than the cost in Nigeria. In this most populous African country, labour costs are much lower while safety and environmental regulations are ignored or corruptly negotiated. Krueger described the general scenario this way: 'in the late 1980s the average disposal cost for one tone of hazardous waste in Africa was between \$US2.50 and \$US50, while in the OECD it ranged from \$US100 to \$US2000 [Babu et al. 2007]'. Electronic waste (or 'e-waste') is the term used to cover all types of electrical and electronic equipment that has or could enter the waste stream. Although electronic waste is a general term, it has assumed technical usage as a term covering any household or business item with circuitry or electrical components with power or battery supply. These may consist of electrical and electronic equipment and accessories that are non-operational or whose life cycles are extinguished. Obsolete



electrical and electronic equipment include computers, televisions, audiovisual recorders, mobile phones, printers and other electronic goods such as air conditioners, electronic toys, washing machines, sewing machines, lawn mowers, elevators, kitchen equipment, therapeutic equipment, surveillance equipment, mobile radio transmitters, refrigerators, and their accessories. Although China and India used to be the 'dumping grounds' for such discarded global electronic wastes, several studies have exposed illegal exporting of electronic wastes from developed countries to African countries, and several Asian and Pacific countries, over the past few decades. Further levels of internally generated electronic wastes are rising across the developing world as well, a result of increased electronic goods consumption stemming, *inter alia*, from upward indices of material wealth in the so-called Third World countries [Dennis V., Agamuthu P., 2012].

Understandably, while the age of information superhighway has brought about many benefits, rising consumption of electrical and electronic equipment coupled with increasingly rapid obsolescence due to unrelenting technological advances, and diminishing product lifetimes has led to significant increases in global electronic wastes levels. Although exact data are difficult to come by because of the often clandestine nature of the trans-boundary movements of toxic wastes and hazardous products, researchers estimate that some 50 million tons of electronic waste is produced annually around the world, of which only ten percent is recycled [Babu, B.R. et al; 2007]. The UNEP study of 2009 warns that by 2020, electronic waste in South Africa and China will have soared by 200–400 percent from 2007 levels and by 500 percent in India. Statistics also suggest that the United Kingdom alone is responsible for producing some 1 million tons per year of electronic wastes while the United States dumps between 300 and 400 million electronic items per year, and yet, less than twenty percent of those electronic wastes are properly recycled. This mounting

crisis is compounded by low recycling rates, and illegal trans-boundary movement from developed to developing countries. At the same time, there is a significant increase in demand for electrical and electronic equipment from within developing countries, thus further contributing to future potential increases in electronic wastes [Widmer, R., 2010].

Individual demand for electrical and electronic equipment is rising at a considerable pace across developing countries, driven primarily by growing disposable incomes and the quest for the monetary values of components retrieved from obsolete electrical and electronic equipment. Empirical studies show that because discarded electronics contain precious materials such as copper, gold and silver, many informal recycling yards have sprung up in developing countries where workers are paid low wages to extract these valuable metals from these waste products. Demand in the poorer countries of Africa and Asia for electronic waste has steadily grown as informal scrap yards found they could extract valuable substances such as copper, iron, silicon, nickel and gold, during the recycling process. A mobile phone, for example, is 19 percent copper and eight percent iron [Chung S., 2012].

Despite this growing demand for, and saturation rates of, electronic and electrical equipment across the African continent, many people are unable to afford new electronic devices. The resultant quest for cheaper second-hand electrical and electronic equipment, coupled with low labour costs for reparation and refurbishment, has thus led to a strong electronic re-use market in developing countries, and is clearly strong across much of the developing world. Taking Nigeria as case study, for instance, the Standards Organization of Nigeria (SON) declared that within the first quarter of 2010 alone, it destroyed over 30 container shipments estimated at three hundred million Naira (approximately two million US dollars). Ghana is reported to have imported 31,400

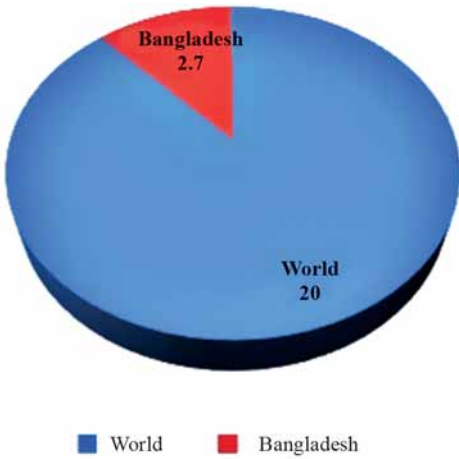
metric tons of used electrical appliances in 2010 alone, 75 percent more than what was imported in 2009, with the United Kingdom accounting for more than half the quantum of imports into that country [UNEP, 2007]. In Tanzania, the World Bank asserts that over the last decade, personal computer penetration rates has risen ten-fold, while the number of people who own mobile phones has increased by over a hundred percent. Furthermore, reports commissioned by the Sustainable Electronic Wastes Project (StEP), a UN initiative that facilitates multimodal responses to the electronic wastes problem, indicate that electronic and electrical equipment markets remain unsaturated, particularly for ICT products, across the majority of the countries surveyed, indicating further future growths in electronic and electrical equipment penetration across the developing world. This scenario is assuredly going to result in higher levels of domestic electronic wastes generation annually, due to the reduced lifespan of second-hand electrical and electronic equipment [Sthiannopkao S., Wong M.H., 2012].

As would be expected, a substantial portion of the demand for second-hand electrical and electronic equipment in the developing world is met by discarded equipment from government agencies and companies. In Kenya, for example, this source stream of electrical and electronic equipment was found to contribute up to twenty percent of the stock of second-hand ICT equipment in the country as of 2009. Much of the remaining demand for secondhand electrical and electronic equipment in developing countries is met by imports from developed countries [Robinson, B., H., 2009]. However, estimates from Greenpeace International, 2008, an independent international non-governmental organization that acts to transform attitudes and actions in order to protect and conserve the environment and to promote peace indicate that between 25 and 75 per cent of second-hand electrical and electronic equipment imported into Africa arrived in an unusable condition,

beyond repair. In summing up this segment, it becomes discernible that the electronic waste problem is a global concern because of the nature of the generation, distribution and dumping of wastes in the globalised world economy [Mo, H., Wen, Z., & Chen, J., 2009]. While it is hard to calculate overall amounts of electronic wastes, it is beyond question that hefty quantities end up at locations where dispensation takes place at very rudimentary levels. This engenders concerns in relation to capacity building, resource efficiency and also the shorter and longer term apprehensions about the perils to human beings and the environment. Certainly, there is a lengthy and often complex sequence of processes in the electronic waste menace, starting from an idea that an info-tech expert has conceived for making a new invention, then the fabrication of that product, leading to its commercialization, procurement and, ultimately, it's dumping by the consumer after the product's life span or usefulness. These are the issues that throw up the questions around waste management beyond its confinement as a legal issue *simpliciter* [Xianbing, 2006].

#### STATUS OF E-WASTE IN BANGLADESH

Bangladesh is developing with the increasing of technology usage. Sustainable and safe use of technology is a big challenge for Bangladesh. The wastes from electronic goods come to Bangladesh as curse. People consume and dump the useless products without any consideration of environmental damages and sustainability. Moreover, every year significant number of scrap ships is imported to Bangladesh by importer legally and/illegally. These ships are broken in ship breaking yard located mainly in southern part of Bangladesh. During ship breaking, many heavy metals and toxic pollutants emit to environment and oil spills to land and water bodies. As Bangladesh has binding to import scrap ships, thus illegal import and trade off of e-waste is happening by importer to make profit and hence, e-waste vulnerability of Bangladesh is increasing. The scrap ships are carrying large volume of toxics



**Fig. 1. E-waste generation: Bangladesh Vs World (in million MT)**

products and electrical & electronic waste, includes: antiques, barometers, clothes irons, electronics, lamps/light bulbs, light switches, paint (Latex), pesticides, television sets, thermometers, mirrors, washing machines, calculators, desktop liquid crystal display (LCD) monitors, laptop, LCD monitors, neon lights, sewer pipes, etc.

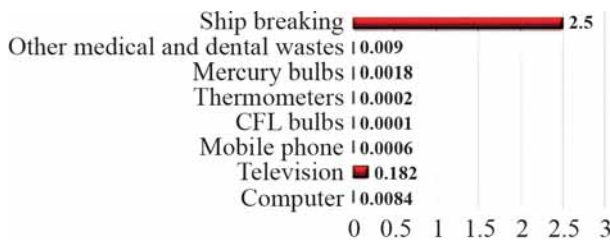
Bangladesh is one of the highly e-waste generating countries in the world. Almost 2.7 million metric tons of e-waste is generated per year (Fig. 1), in contrast, it is stated in the report "From e-waste to Resource" that in the world volume of e-waste generated per year is 20 million metric tons. However, according to UNEP projections, 2010, an estimated 20–50 million tons of e-waste is being generated annually in the world. According to yearly generation figures, it is clear that ship breaking yard occupied highest (2.5 million metric tons) position. Wastes from television sets have taken

the second highest (0.182 million metric tons) position with an exponentially increasing rate (Fig. 2). No inventory has been made to assess the extent of e-waste problem in Bangladesh [Ahmed FRS and Pervez m., 2011].

The goods below generates e-wastes in Bangladesh [Abir M., Shanoor R., 2011];

- Total number of PCs, TVs and Refrigerators in the year 2006 was 600,000, 1,252,000 and 2,200,000.
- The total number of TV sets users is roughly 10.3 million at the end of the year 2008.
- Every year around 59, 85,000 TV sets become scrape and generated 88,357.14 metric tons of e-waste.
- The total number of mobile phone active subscribers in Bangladesh was 58.36 million at the end of May 2010.
- Each year more than 2.8 million tons of electronic waste (it includes e-waste from 'ship breaking 'yard) generated in Bangladesh.
- E-waste generated from ship breaking yards about 2.5 million metric tons in a year.
- POPs: from ship breaking sites, PCB, Dioxin, Furan
- 10,504 metric tons of toxic e-waste by cell phone sets within last 21 years.
- Within the last 10 years IT sector generated 35,000 metric tons of e-waste in Bangladesh.

According to an estimate, more than 500 thousand computers were in use in 2004 and this number has been growing at 11.4 per cent annually. Even if the figure of 500 thousand were taken as the baseline, that many PCs would contain approximately 15.323 tons of



**Fig. 2. Generation of e-waste (in tons) in Bangladesh**