



event resulting the ecological-environmental climate change along with river capture-(change of river path) etc., in this region of Western Ghats. We can just imagine even, in such event the occurrence of deluged floods, and the peril of the then living beings whatever their form maybe. It was a kind of Natural ravage. Such events in very dilute form might have occurred in the later stages also and aboriginals might have faced hazards. Apart from this, we can observe that a path of green fertility and present rich plantation have been installed from Balamuri-Guhya-Siddapur area (where Kudapole cuts into eastern and western branches) upto Makutta in south Kodagu; since fertile land developed due to the western flow of the then Kudapole-Kaveri. It is also interesting to note that the western part of *South Coorg* is called even today as **granary of paddy**. The name "Kaveri" is a later puranic (Mythological) name to Kudapole after the incorporation of the story of Agastya-Kaveri. Of course the Kerala Sources (K.K. Mannen, *Kerala Culture*, 1942, pp.80-81) say that Agastya in 1075 B.C. came to Western Ghats along with 18 Velir families and Aruvalars the ancestors of Kuruba

aboriginals and established the kingship to these leading Velir people. As already stated probably the then Kudapole was attributed by the sacred name 'Kaveri' by 11<sup>th</sup> century B.C. Hence Kodagu and Kerala flourished with abundant forests, rivers and crop fields etc., with rich flora and fauna as noted earlier. Such was the conservation of Western Ghats since pristine ancient period. Even *Grater an English poet* in his poem in 1869 A.D. has extolled the beauty and fertility of Kodagu flora and fauna i.e., with crops, fruits, trees and animals. Infact it is said be one of the beautiful landscape dictionary of South India. Let it be so.

In the month of July-August 2018 the turmoil of the situation due to deluged floods in Kodagu and Kerala occurred which has resulted in the loss of lives, and live stock, with landslides, drowned houses, resorts, people unsheltered and destroyed plantation, paddy fields, roads, bridges and vehicles floated and gone with the floods.

The reason for this happening is attributed not only to Nature's red eye but also manmade ambitious activities (one's own mistake to the extent of

annihilation) like - felling of the trees in the forests whimsically, by encroaching and construction of Resorts in the midst of forests. Homestay buildings, Tanks on the hill sides to facilitate them for luxurious pleasure to tourists, and similarly near the bank of minor rivers and rivulets. It is learnt some 56000 trees have been felled to accommodate the power installations. According to Central ISFR biannual report (2017) Kodagu in Karnataka has shrunk in its forest area by 102 sq.km though Karnataka as a whole has an increase by one percent i.e. by 1,101 sq.km. Hence the fate of Kodagu has led to the deluge. The floods due to deluge was so much all the rivulets in north western parts of Coorg in the month of August, 2018 itself have been boosted as river like. The deluge has clearly shown its effects when the Nature's balance is destroyed by the man's encroachment and other destructive red activities. Thus when the nature resents then it becomes as the poet says: ***Nature is red in her tooth and claw***

The perennial rains and swelling floods are said to have caused the trail of ravages and ruins heavily in Kodagu (Coorg) district of Karnataka state and

Kerala state and some parts of Dakshina Kannada district. So many hundred of lives and property of many hundred acres worth of thousands crores during July and August, 2018 have been at loss due to this event.

In the light of this deluge, we have to look back the attempts made to warn if the Nature-balance, environmental sensitive area safety are neglected, and the effects of it. Then comes to our memory the suggestive role of the Madhava Gadgil Committee report and Kasturi Rangan Committee report and their characteristic features for conservations of Western Ghats, merits and demerits, consequently the reactions of people and the interested lobbies. In this direction previous attempts made for the conservations has to be also noted.

#### **Attempts for historical conservation of Western Ghats**

The go back study of India's Natural calamities due to floods and climate changes, we find that it alerted the human sensibility and volunteer assistance consciousness in all phases in Karnataka, Kerala. It was a volunteered conscious response in rescuing and alleviating the loss of lives and the pains of suffering people.

But this active volunteer system has yet to be more systemised on strong qualitative basis with the Government statutory involvement. Hence we have to study role of the Government and whether its active attempts, were carried on in course of time on top priority, in the conservation process.

The states' less care towards environmental conservation of Western Ghats has been exhibited by allowing mining, quarrying, illegal plantation development, agricultural farming, real estate activities on the hills (in sensitive ecological area). These man-made activities have been rampant, neglecting the sustainability and protection of the environment. This has resulted in environment destruction. These aspects draw our attention.

The Western Ghats series have stretched along Indian peninsula from Gujarat almost to the Southern edge of India. Western Ghats are said to be the water tank of Southern India, since 58 rivers raise from Western Ghats. They passed through Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu. In this region distinctive species of flora and fauna are found and they exist in 1500 and 500 nos.

respectively. The indigenous tribes in these hills are numerous and leading their life since many centuries. After the advent of the British, who developed the deciduous (shedding leaves) and evergreen forests, which facilitated the growers to install swiftly growing teak and economic crops like coffee and tea; plantation, and industries got convenient support in addition to the construction of dams, mining activities, with least regard to Environmental safety. After India's independence these operations were bolstered.

Observing these activities and ensuing possible danger the Government by 21<sup>st</sup> century awaking itself with initiative to control them with a concern for the conservation of Western Ghats to be on the focus. The Western Ghat area from Gujarat to Southern edge of India has the length spread over 1600 k.m. with 1,64,280 sq. km. initiating for an attempt to save this valuable Nature's Forest deposit, the thought of laying foundation for the same by the Government came to a shape in about 2002 A.D. The indigenous tribes who were considered as encroachers of forest, were later treated as the people

of concern to maintain the forests and its produce by framing the Forest Rights Act, 2006. Hence the Govt. introduced the Environmental Impact assessment Regulations, 2006 and passed the National Green Tribunal Act, 2010.

In this background former Central Minister Jairam Ramesh called for a meeting of Civil Society groups, who were concerned with the protection of Western Ghats in 2010. After due consultations with these groups, Western Ghats Ecology Panel was constituted under the chairmanship of famous scientist Madhava Gadgil, to scrutinise the environmental impact in case granting clearance and to dispose cases connected with the environmental issues. The Gadgil Committee duly ascertained from the field study submitted its report to the central government on 31-8-2011.

The Committee in its report had stated that Western Ghats are a mountain covered region with 1.29 lakhs sq. k.m. extending 1490 kms., From Tapi valley in the North to Kanyakumari in the South having a maximum width of 48 k.m. in Maharashtra. The Committee had designated the Centre Zone as

ecologically sensitive area (ESA). It has with ESA, phased out ecologically sensitive zones viz., ESZ I, II and III, which will consider the existing local condition and internal rifts if any. Further, it had specified that on any account, the land should not be debased and should have complete control over the Western Ghat activities. The Committee has also placed other conditions as follows:

*The genetically modified crops should not be cultivated in the entire area; the plastic use should be gradually cut down within a period of three years, in the entire area. No new special economic zone or hill station need be created in ESA; No public lands need to be converted into private lands and no forest land should be converted for non-forest activities on any account in ESZ I and II; New mining operations should be banned in ESZ I and II area; dams, thermal plants and wind power projects should find no place in ESZ-I area; new railway line or major roads should not be installed; There must a control on tourism; the use of chemical pesticides must be discontinued within 5 to 8 years gradually in ESZ I and II zones. The Western Ghat Ecology Authority should be constituted to regulate the*

*above activities in the entire areas.*

Somehow the above conditions created opposition from all the six states, and mining real estate and political lobbies and other interested groups to the Gadgil Committee Report. Hence implementation was withheld inspite of RTI application urging for the summary of the report. Anyhow due to the intervention of the Central Information Commissioner, Delhi High Court ordered to publish the report. By this time Jayanti Natarajan the then Central Environment Minister appointed High Level Working Committee on 17-8-2012 under the former ISRO Chairman Kasturi Rangan to review the Gadgil Committee report and advise. This new committee which had received 1750 responses out of which 81% were not in favour of Gadgil Committee Report. Analysing the situations the new committee submitted its Report on 5-4-2013. The government agencies, private entities, business interests personnel in Western Ghats were preferred as 'stake-holders' in the region. None of the citizens who supported Gadgil report were entertained.

The ban on mining, quarrying,

transport infrastructure, wind energy project, Hydroelectric projects, transfer of river water, New polluting (Red) industries would be detrimental to the development and needs of the people, was the plea argument put forth by the interested parties of Kerala state who vehemently opposed the Gadgil report. Karnataka also encouraged the protests against Gadgil Report on similar lines.

Kasturi Rangan Committee Report considered 1,64,281 sq.km. of the Western Ghats and distinguished it in two phase viz., as the **cultural landscape** and **Natural landscape**. About 60% of the Western Ghats has been considered as **cultural landscape** where human activities like settlement, agriculture, plantation was existing. The remaining 37% Ghats area was considered a **Natural landscape** (60,600 sq.km), which was biologically rich area and classified as ESA. But Gadgil Committee in its report classified 64% of the area as ESA (Ecological Sensitive Area) i.e., in Kasturi Rangan Committee reports ESZ has been swelled compared to that of Gadgil report; Gadgil's Western Ghats landscape area covers 1,29,037 sq.km. while Kasturi Rangan's Western Ghats landscape

area covers 1,64,280 sq.km.

Kasturi Rangan report though recommended to ban stone mining, quarrying and sand mining, new Thermal Power projects, it had given concession to install Hydro Power Project, and other construction projects under certain condition in an area of 20,000 sq.km. In a way it was a diluted version of Gadgil's report, since it made provision for constructions and real estate development in forests as already told under certain conditions. In spite of these provisions made consequent to the dilution of Gadgil's report, respective states opposed even Kasturi Rangan Committee Report. Kerala wanted the reduction of ESA area from 13,108 sq.km to 9,993.7 sq.km. Karnataka also did not accept the report because the notified ESA area of 20,668 sq.km. being the largest area of considering it as ESA among all six states, which made the Karnataka to think that its interests are Jeopardised; but it put forth the condition to cooperate only when the environment ministry form a committee which takes care of the concern state. In addition to this diversion of west flowing Netravati and Sharavati rivers towards east to

meet water requirements of Kolar, Chikkaballapur, Bengaluru rural and urban districts was not favoured in Kasturi Rangan Committee report since these projects fall within the ESA cover on the plea that it would be a loss of vast tract of forest, if the power lines canals and roads are setup in this Western Ghat area.

Maharashtra also did not accept Gadgil Committee report, and wanted more quantity of reducing ESA and modify Kasturi Rangan report, Maharashtra wanted this concession since it wanted to protect the interest of Lava Corporation in Pune Mulshi Taluk, which was trying to install controversial hill station in phases. Tamilnadu and Karnataka further argued that they have their own laws and regulations to protect Western Ghats area pertaining to them.

But it must also be noted here that Kodagu since 1967 has lost 40% of tree cover. These states felt that their autonomy over Western Ghats would be curtailed. Somehow this issue was politicalised.

It is known that all most all rivers in peninsular India have their origin in Western Ghats and hence any issue in this regard will have a consequence

on the whole of Southern India. It must be noted deforestation and change of landscape may cause natural calamities (since envisaged to install Thermal plant in the Kodagu forest, and drawing rail way lines through dense forest about 56000 trees have been fell down) on north western part of the Kodagu, which we have seen in middle of August, 2018 disasterous floods - deluge; swelled rivers; even rivulets were fierce with full swing; but now both small rivers and rivers have become almost a, very thin waterflow and underground water stunted in those parts of Kodagu (Coorg) and the fear is forth setting that the drought may set in. Thus we have a warning from the nature, that risk reduction activities must be envisaged for the conservation and protection of forests for sustainability.

#### **Comparative aspects of the dual expert committees on ESA**

Gadgil report stressed very much an environmental safety: Kasturi Rangan report stressed much on development aspects which has been criticised since it allows indirectly mining activities which is supposed to be a loophole in the report. Due to this, it is detrimental in the long term,

to the ecological maintenance and enroll negative consequences. Many feared that Kasturi Rangan report implementation will destroy their livelihood and the interests of the people of the area.

In Gadgil report, the Western Ghats landscape covers 1,29,037 sq.km. which is in lesser degree than that the Kasturi Rangan report, the coverage in it being 1,65,280 sq.km. In Gadgil (ESZ-I) environment/ecological sensitive zone is about 60% and it credits highest priority. But, Kasturi Rangan report has considered only 37% of Western Ghat area as sensitive zone. Gadgil report has considered entire landscape as ESA and phased out 3 ESZs to allow development activities also with due care with an allotment. About 15% area has been offered to ESZ-II and existing mines may continue. But no mining is admissible in ESZ-I. In ESZ-III new mines activity was allowed. K.R. Report has considered 188 taluks as Western Ghat landscape and the area would be 1,64,280 sq.km. In 37% Western Ghat area there will be no place for red industry (Hazardous industries that pollute the area), Thermal plant and mining. In Gadgil



ESZ-I area covers roughly 77 thousand sq.km. i.e., 60% of 1,29,037 sq.km., while in K.R.R. ESA covers 60 thousand sq.km. i.e., 37% of 1,64,250 sq.km. It means about 17 thousand sq.km. area will be phased out (lessened) from top priority maintenance. Gadgil also had recommended to institute a National level authority (Tribunal) which consists state and district level branches. But K.R.R. favoured the strengthening of the existing structure i.e., setting up a managing body, since Gadgil concern was mainly on 'water'. In K.R. Report most of the rivers have their location beyond 37% of ESA considered by it and protection of the same from pollution and sand mining has not been visualised.

#### **Critical view on the dual reports**

Gadgil Committee report is more environment oriented and ground realities have not been valued and it is impractical. It claims entire Western Ghats as ecologically sensitive. It has unnecessarily proposed to form a new body WGEA. While the existing laws alone are sufficiently meant for protection. It has also not considered the revenue losses that occur if the report is implemented and it has not

suggested any alternate remedy. Its opposition for construction of dams in Western Ghats is not in resonance with the need of power energy of the nation.

The Kasturi Rangan report which has used remote sensing and ariel survey technique for phasing out of Western Ghats, is beyond ground reality and as such errors have creped in the report. The controlling authority lies with officialdom with no regard to gramsabhas. The mining and quarrying mafia will have a heyday and the farmers will loose their shelter in the area and their farming activity will be permanently stopped; when the mafia gang and tourism grow, in leaps and bounds it will endanger the environment. The technique used by the Committee has been erroneous because many non-sensitive areas have been included under ESA and villages containing rubber plantations only with no forest have been included in ESA.

#### **Attempt for implementation of report and its impact**

The Central Government under Ecology Conservation Act, 1980, 37% of Western Ghats (ESA) envisaged by Kasturi Rangan Report has decided to

proclaim as ESA. This is because, even, though Gadgil report was said to be not anti-farmer, many felt Kasturi Rangan Report is more practical. But the farmers felt that both the reports make them to be away from their land. As a matter of fact, the one report stresses on the control of sensitive area, under forest department and other one under the control of district administration and pollution control board.

When the Gadgil report was published there was lot of protests since it was not favourable to sand mining and quarry lobbies of Goa and elsewhere. The fear complex was said to be intentionally created among farmers in Kerala. Similarly rights claiming (insisting) conference and movement was organised in Coorg district. Farmers feared that the implementation of either of dual reports would lead to their eviction from hither to allowed farming in ESA area (though at least many felt K.R. Report is more practical). protests were mainly due to the fear of eviction and loss of livelihood in addition to the sentimental attachment to the land where they lived.

Central Government issued an

official order in November, 2013 for immediate implementation of five proposals specified in Kasturi Rangan Report. This gave rise to the agitation. The Union Ministry asked the State Governments to offer their views on the report, since arguments were carried on far and against. Further Union Ministry of Environment and Forestry (MOEF) instructed six States on November 3, including Kerala to ban environment endanger activities in Western Ghats villages, which are considered as ecologically sensitive areas by Kasturi Rangan Committee. In such area the damaging activities like mining, quarrying, installing red category industries that highly pollute the environment, and construction of buildings, in the 2000 sq.meters area and township spanning more than 50 hectares, are required to be avoided.

But why the steps were not initiated to convince the people regarding the danger or havocs that are likely to occur in case the Nature balance is destroyed due to pollutional activities! And was it due to the mining mafia gang and lobbies that have spread over the fear so that the awakening by the reports, was not to be heeded by the people! Many opine, the influence of mafia lobbies could have been

curtailed. The serious consultation with the local agencies and organised group was not done in regard to the environmental problems. By whomsoever the lacuna may be the irony was the deluge and landslide occurred in the Ecological Sensitive area. It means it is not mere Nature's red eye, Rain and fierce havocs, but also the human self created havocs; unprecedented it is said, since hundred years. The preparation to face climate change consequences by the officials seeking advice from the experts to abate the destructions was also the need of the hour.

**Nature's rage and human made havocs**

It is stated that the formation of low (collapse?) air pressure near Africa, consequent to this the Somalijet winds moving to north took a turn towards Western Ghats which resulted in deluge and fierce winds with heavy rains. It is also said that the low pressure systems developed into depression will influence the down pour of monsoon rains. And heavy felling of trees whose roots (like Tayiberu - i.e., Mother root) are strong and go deep into the ground in forest area which used to withstand the landslide was also responsible for the

havocs both in Kodagu and Kerala. The felling of trees heavily would lead to rise in the temperature of atmosphere and green house gas effect will set in. This is also a problem evoked due to the human partiality in seeking advantage by the developed countries who impose restrictions on developing countries like India to reduce its industrial complex; but developed countries like U.S.A. somehow avoid this restriction keeping itself safe to its industrial development, which causes heavy air pollution and effect on ozone layers.

In this connection world thinking and events have to be taken to our concern. Due to red type industrialisation, commercialisation, the thick carbon foot prints are increasing. In using carbon and expelling  $\text{CO}_2$  to the atmosphere it is said that the role of America the rich developed country is more. In KopenHegan world convention (consultation) it was contemplated that the green house gases should not be allowed to increase and ozone layers should not be harmed since global warming will increase which destroy Nitrogen cycle, and hence steps have to be taken to avoid the same.

Increase in global warming will cause the sea level variations and flood havocs are likely to occur, as envisaged by environmentalists-ecologists. Hence they opposed the amendment to the Kyoto resolution made at Kopen Hagen. Indian environmentalists also joined hand in hand with other international environmentalists.

By 2050 A.D. the oceans will be acidic if the present state of affairs continue. The capacity of the sea to absorb the carbon dioxide of the atmosphere may rise by 150%. In that case what will happen to the life of water, land, air and living beings!

In the Kyoto convention it was insisted that the commitment period applicable to developing countries to check the carbon release, even the developed countries must be bounded to the same lawful commitment. That was insisted by India in the Kopen Hagen Global Warming Summit meet held as Tuesday 15-12-2009. The developed countries using the dais of World Trade Organisation (WTO) have created strategem to safeguard their interest and have played dual role in the case of Global Warming, since they have heavy industrial projects to

enrich their interests, and want to keep developing countries under their obligations.

It must be noted when the Global Warming increase in leaps and bounds, it may indicate the rise of rain havocs. A study from 1951 to 2000 A.D. was made by the Goswamy Study team and observed that from 1980 onwards showers of rain have increased by 64% and number of normal rains have decreased. This economic and social systems have severally affected and caused ecological disadvantages: drying of crop grown areas, fierce wind, imbalance in sea levels, heavy rain are the consequences burdened on the people. In this background, how the interests of the developed countries have affected the developing countries have to be observed. In this panel the havocs in Kodagu and Kerala have also to be viewed.

The extreme rainfall may be due to climate change and at the same time destruction of environment in Western Ghats is human made; this time it is unusually heavy rain fall experienced both in Kodagu and Kerala which resulted in land sliders, fierce floods, breakage of tar roads into pieces,

drowning the houses and people etc., especially the Landslides were rampant in Kodagu, extending upto half k.m. in width.

In Kodagu too many steep slopes are common; when the layers of these slopes are split or damaged, landslides occurs. The heaped mud and its constituents during the constructions of roads form the steep slopes, which are delicate than the normal slopes, landslides will be common. During this landslide the movement opportunity to it is obtained due to the water is a fact. After, unceasing downpour the variety of stones get drenched and possess the sliding features. The drenched stones, added with humidity their weights will be doubled. If the igneous rock stones exist in the area of annual rainfall, those stones will be subjected to chemical erosion and chances of becoming a clay. When these layers of clay get drenched, lend themselves to sliding characteristics. Due to this, the chances of landslides will be more. Any how the landslides will not move to much distance. Also the entire landslide will not occur once for all, and the part of the hill valley will be in the wave form (Kodagu dist. Gazetteer, 1992, p.20). In Kodagu this has happened and houses and

agricultural lands and human beings have been subjected to much harm.

#### **Situation in Kerala**

*In Kerala the incessant rains for 11 days, caused floods which captured all the 14 districts of the State in August 2018. Due to this abnormal rain, about 400 deaths occurred; preliminary loss of 20,000 crores was occurred; four million people with majority being labourers were affected by floods. In the 760mm rain fall received by the state about 75% of it occurred from August 9 to 17. Beyond the normal fall of monsoon trough between August 8 and August 16 Kerala received two spells of widespread intense rains. The worst hit districts were Idduki (679mm), Wayanad (536.8mm), Mallapuram (447.7mm), Kozhikode (375.4mm) and Palakkad (350mm). Iddukki district holds 17 reservoirs, Palakkad district holds second highest concentration of reservoirs. The rain fall exceeded 200% between August 11 and August 18, which was above the normal consequently 20 dams had to open the flood gates which added the flood furry and ravaged landslides. Idukki and Waynad the most heavily forested districts have found a decline*

*in their forest cover between 2011 and 2017. Idukki with a decrease of forest by 20.13% and Waynad with a decrease 7.11%, which have suffered severe damages due to flash floods and landslides. The attention in this connection can be dawn, to the opinion. India's only flood forecasting agency the Central Water Commission does not have any flood forecasting system in Kerala. This deprives the people of the state any reliable ways to face the on coming flood havocs (Down to Earth, Cover story, Vol.27, No.8, Sept., 2018, p.35).*

**Deseeya Seva Bharati Keralam  
Kapila Naikanal Trissur.**

In the circumstances state above how the Deseeya Seva Bharati has planned to face the deluge effect situation in Kerala is to be noted with due attention. Sri N. Tippetwamy\* Kshetriya Karyawaha has kindly secured the same from sevabharati Kerala as detailed in the following lines.

*Project Background:* Kerala is facing one of the biggest flood calamities in the recent years. The 2018 Kerala floods were a result of the unusually

\* (Member of The Executive Committee - The Mythic Society),

severe southwest monsoon. Almost all dams were opened at a time in Kerala and all five gates of the Idukki Dam were opened at the same time for the first time in history. Heavy continuous rain in almost all districts makes big disasters in the entire state. More than 3000 relief camps have been opened by the Government at various locations to accommodate the flood victims. More than 42000 hectares of crops were destroyed and 2.6 lakhs farmers affected due to flood and landslides. 10,000 km roads were damaged and 221 bridges totally collapsed. 55 lakh persons in 775 villages were affected by the floods and preliminary assessment of loss is at Rs19,512 crores.

Sevabharathi as a socially committed voluntary organization is actively involving in the flood relief works throughout the state. More than 350 Sevabharathi units and 1,61,605 volunteers engaged in the relief works in the entire state for rescue, relief and cleaning activities. More than 652 medical camps were conducted in the flood-affected areas in different parts of the state. More medical camps are planning to be organized in the coming days. 420



relief camps were directly maintained by Sevabharathi with the support of well-wishers and volunteers in which food, accommodation, and medical services are provided to the flood affected people. More than 75 Ambulances of Sevabharathi is engaged in the flood relief work in different areas. Thousands of common people are joining hands with Sevabharathi to support these initiatives and the organization is mobilizing cloths, food grains, drinking water bottles and other requirements from the public to serve the affected people. 300 collection centers were opened to collect the materials from the public and to arrange the transportation to relief places. The organization is continuing its services in the field to support the people to retain their living standard.

*Project Rationale:* The natural calamity affected in Kerala during August 2018 directly affected the normal functioning of the majority of the educational institutions in the State. Heavy rainfall & flood, especially on 14th August evening, entered into the school campus had created a huge loss and damaged to the infrastructural and other facilities in the schools. The



(Courtesy: Kerala deluge photos by Sevabharati Keralam)

**Onam vacation** was advanced due to the heavy rains and floods and over 10 lakh people who were displaced by the deluge after their houses were either destroyed or damaged due to flood waters, were accommodated in schools which functioned as relief camps. As per the government data, more than 270 schools have been fully affected by the recent flood.

The school authorities were unable to reach into school premises due to this high water level. The entire village was affected by the flood and not only the school the houses of the students, teachers and management committee members were also under water due to the flood. The administrative office, library, computer lab, classroom, staff room etc were collapsed in most of the schools. Unless any external support is received, the school authorities face difficult to retain the situation and continue the education of the students.

*Proposed Project:* The proposed project is to support the flood-affected schools in the state and help them to retain the normal functioning and maintain the facilities to deliver quality service to improve the educational standards of the students.



### **Probable reasons for the deluge in Kodagu**

In toto the reason attributed for the deluge is partly due to Nature and major part is man-made. Somali jet winds from Madagascar have struck the Western Ghats, causing heavy abnormal rains; climate change; occurrence of low air pressure; looseness of soil and soil erosion; formation of clay due to the reaction of igneous rocks with water; landslides creating soil heap, global warming etc., may be the nature's role. As a matter of fact it may also be natural annual occurrence. For heavy abnormal rains human behavioural instigation will also be a major factor. Heavy tree felling of trees for smuggling of timber; for installation of red industries, sand mining, quarrying; thermal plant; construction of dams.; Home Stay and Resort building constructions to facilitate pleasure feel type life of those building holders and their customers; changing the geo-structures which disturbs the natural flow of rain water; construction of

roads unscientifically either on hillocks or in Ghat sections; planting silver oak trees for shading plantation.\* These are all in the name of Tourism Development and provision of financial exuberance. All these are human made no doubt. But suitable measures have to be taken to check human illegal coverage in the forests with lobbies and mafia hold, to avoid human made ravages, so that the Nature's balance is maintained with due reservation. This applies to both Kodagu and Kerala.

### **Deluge Effects**

Erratic rains caused fierce flash floods, landslides, drowned houses, erased plantations and agricultural wetlands filled with sand and clay; hillocks gave way to slits; roads were broken and smashed, and became unfit for vehicular traffic; villages destroyed; house walls cracked; many houses submerged; many families and livestock are drowned and dead. Some instances can be cited in this regard.

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\* Sri B.E. Veera Raju, a progressive farmer of Nanjaraya Patna of Kodagu district, has stated, the roots of oak trees have no mother roots and do not go deep. Hence in case of heavy rains they cannot sustain the root net and the soil become loose.

At Ibnivalawadi of Madikeri Taluk, *Nandi Neravada N. Muttappa's* house showed cracks in the walls near the window and house also partly damaged. Villagers feel this event was a preamble to deluge though Geologists do not attach any importance to this opinion. Muttanna's entire plantation, wetlands were completely submerged in flood water and washed away. Today sand covered land is only left to him.

Along the bank of Hattihole the houses constructed at a distance of 10 feet from the river path have all been collapsed. Land slides have been many enroute Kandanakolli. Makkandur, Karnageri; in the 2<sup>nd</sup> Monnangeri village, landslides were heavy and broad. The rivulets are in very thin flow, wet lands near the survived house are covered by sand. The rivulet near this wet land, looked like a linear flow in the midst of landslide area. The path through this landslide area was covered with clay spots. Crossing the clay spots, we can find the lands of Chinnappa Naik and Krishnappa Naik, which were damaged. Still the totemistic deity

'Guliga Stone' (small rock) was sentimentally saved by them and their wish to stand near to it was a devotional pleasure to them. Their houses were on the hillock of deep forest and they have witnessed landslide near their residence area. They have lost 2 acres areca nut plantations in the flood ravage.

In the village Jodupala enroute Madikeri, Madenad and Sampaje the 11th century inscriptionally cited pristine village, one Yatish of Jodupala village, whose family members were residing in the house constructed near Payaswini river. During 'deluge' floods the house was submerged up to the roof level. After the flood decreased the house was seen as a skeleton of highly destroyed one. This river path was changed near Madenad since the effect of deluge.

The house worth one crore constructed on the bank of Hattihole (Hatti river) was reduced to mere rubble and soil heap could only be seen as the relic of the same. 8 acres of coffee estate belonging to one Dinesh Naik of this village has been destroyed causing loss of 2½ crore

rupees.

Muvattokkalu village has highly suffered with heavy land slides. Mukkattira and Mandira family people of this village stated in despair that they have lost all their plantations and wet lands. The house built at the cost of 25-30 lakhs has been doomed to dust, near Madapur village.

The 32 villages in Madikeri and Somavarpeta taluks, to name some of them - Hebbettageri, Devasturu, Kalur, Galibeedu, Madapur, Mukkodlu, Mandalpatti villages were caught to landslides and surrounded by slash soil. The villagers caught in midst of this situation at Mukkodlu (15), Avandi (140), Madenad (7) Kalur (15), Bettatturu (4) were saved by the searching team using Drone camera and shifted to Relief Centres.

About 3600 acres of coffee plantation has raged to the ground. 10 thousand acres of crop are damaged. About 5000 houses have been reduced to dust. Subramanya-Bisale Ghat connecting road has been destroyed without leaving any trace of it. Though the down pour is decreased

the fear of the distressed people was about the spread of contagious diseases. It is also estimated that Kodagu has suffered a loss more than 2000 crore, 20,894 hectares of crops, 150 kms road and many deaths.

The water sources are hidden in the mud heap of landslides. The rivulets have become slush mixed water and unfit for the daily usage. In Sampaje, Makkanduru area, many villages are drowned, and villagers are unhoused, unsheltered and whereabouts of many villagers are in dark. The above is only a brief picture.

#### **Relief operations**

At Shiradi Ghat, the heaped soil due to landslides have been cleared by JCB machines. Roads are repaired in landslide areas using Geofabrics, Geogrid and sandbags, to help vehicular traffic to shift the people to relief centres. People were shifted to relief centres opened at Kushalnagar, Sampaje, Kalgundi, Balabhavan, Madikeri Maitri Hall and other places which were nearer to the respective destroyed villages. The distressed were shifted to safer places through

the rescue efforts by District Administration under the leadership of D.C. Smt. Vidya and served them in relief camps. The Sevabharaty, under the leadership of Sri N. Seetharam, Karyavaha of Mangalore division R.S.S. unit, the R.S.S. volunteers have rendered yeomen services, different political party workers, artists, singers, film actors, Kodava Samaja, Gowda Samaja, Army Jawans, Ramakrishna Ashrama, Arameri-Kalancheri mutt, Suttur Veera Simhasana Mutt, Dharmastala, Gokarna religious institutions, educational institutions, Bengaluru Bruhat Mahanagara Palike, Kannada organisations, and individuals have made donations in kind and money. The media-channels, newspaper wing like Vijayavani, Kannada Prabha, Prajavani, Vishwavani, Hosa Digantha, Samyukta Karnataka, Vijaya Karnataka, Deccan Herald, both State and divisional branches of the press, local papers like Shakti, Prajasatya, Bramhagiri, Andolana, Mysore Mitra etc., have served by publishing articles and situational reports to motivate the donors to donate food articles and money and other necessities and the

receipts of the same were supplied to the relief centres. NDRF staff took all the safety measures to rescue people, and supply food to the villagers of Jodupala near Sampaje. The State Government and Central Government also have announced financial help to the distressed and their officials visited the distressed at the relief centres and consoled them, with the promise to provide necessary help. The State ministers Sri R.V. Deshapande, Sri Mahesh and Central defence Minister Smt. Nirmala Sitaraman, State Chief Minister Sri H.D. Kumaraswamy, opposition leader Sri B.S. Yadiyoorappa, Sri Prathapa Simha the M.P., and Local M.L.A. and M.L.C. Appacchu Ranjan and K.G. Bopaiah etc., all have visited the distressed at the villages and relief centres and consoled them promising the necessary help and assistance. Rastrapathi Sri Ram Nath Kovind Priminister Sri Narendra Modi enquired the chief minister of Karnataka Sri H.D. Kumara Swamy about the situation of the distressed in Kodagu and promised to provide necessary assistance.

The district administration has risen to the occasion in sheltering the distressed in the relief centres at Madikeri and other places providing food till villagers returned to their villages still some relief centers are operating. This is how in nutshell the service minded have stood to serve at the time of dire need due so deluge. Anyhow the promises has to gain speedy momentum and put into action in the coming days for shelter and livelihood of the sufferers.

#### **Reasons for deluge and its effects in Kerala**

Unauthorised building constructions, uncontrolled quarrying were widely permitted in the forests by allowing heavy tree felling which is the cause for the disaster, was the argument by environmentalists, and they also opine, big dams were constructed beyond the necessity which was a hindrance to the natural flow of river water and hence quality of water, vividity of flora-fauna was affected. When the dams were full up to the brim it is said it was not envisaged when the dam water has to

be released; but when the heavy downpour occurred emergently all the water gates were opened and the water rushed in full quantity with heavy speed.

In the agricultural wetland, in the name of the development Resorts and Bungalows of high altitude were built. Non-agricultural activities were expanded in dry land area, resulting the stunted underground water, and holding of water in underground also used to decrease day by day. Deep digging near the bank of the river resulted in erosion of the soil which was detrimental to the water sources. City waste heaps, industrial wastages, agricultural pesticides wastage - all dumped in rivers which caused pollution.

11,309 sq.km forests, 9,107 sq.km reserve forest, were illegally spaced to quarrying and resorts constructions. While developing tourism the natural tanks and rivulets were least cared rigarding there safety. These are all human made havocs apart from nature's reaction to human illegal actions.

Ernakulam, Wynad, Kozikode, Idukki, Pathannomtitta, Kannur, Mallapuram, Palakkad, Trissur, Kottayam, were all water surrounded and landslides were heavy. Hundreds of houses were washed away. The God's Land was literally drowned. Periyar, Pampa, Chalukudi rivers were fierce and flowing above the danger level. About 37% more rain was the down pour than the normal rain. At Idukki 84%, Kottayam 47%, Ernakulam 44% extra down pour occurred. Mallapuram, Ernakulam, Trissur have become islands and people were shifted in boats and helicopters and sheltered in relief camps. About 134 bridges, 400 thousand hectares of crops, 26,000 houses, 16,000 km roads have been destroyed-all incurring a loss of Rs. 21,000 crore due to deluge.

Barapole (flowing from Kodagu to Keral) river is the second longest river which used to flow like a rivulet even in summer after the floods has been reduced to thin flow. The fate of Pampa river is similar to that of Barapole. The big flood of Chalakudi river which had made Trissur under

water now is covered by sand completely. The bank that runs about 5 kms along the river Lilanjali is completely occupied with sand; even the level of water of lake SastaKotta and the lake of Bembanady (Waynad) is reduced.

It must also be observed that, though the Wynad in Kerala due to deluge has been heavily damaged, the deep south coorg (Kodagu) which is very near to the border of Wynad, has not been affected upto Virarajendrapet area. It may be due to strong and dense forest coverage with sustainable firm reserve forest trees and strong Devarakadu trees.

#### **Relief measures operated**

Navy personnel saved the pregnant lady caught in the house surrounded by flood water by helicopter. Rastriya Vipattu Nirvana Panel, Army batalian have rescued the people and sheltered them in relief centres. Prime Minister Sri Narendra Modi also arrived and consoled the distressed and promised the assistances required. The Fishermen Association (Matsyagara Sangh), 39 volunteer groups were

involved to serve the distressed in all respects. The Indian states and other countries, Indian film actors, lawyers, bishops, Sri Raghavendra Mutt (Mantralaya), Rangabhoomi artists of Bengaluru, Bengalur dairy, Reliance groups have all donated in terms of money, kind and pacified the sufferers of deluge. Congress President Sri Rahul Gandhi visited the distressed Kerala people and consoled them. It is said to rejuvenate Kerala, 30,000 crores are required. The chief minister Sri Pinarayi Vijayan had taken all the steps to tone up the administrations to help the distressed in all respects.

Especially the service rendered by Matsyagarara Sangha (Fisher men association) of Kerala has been highly appreciated by one and all

Analysing the causes of deluge, and its effects and the way in which service-assistance rendered by the people of various fields, states inside and countries outside India with no distinctions made, is matter of humane conscience awakening and its fulfillment. India has shown its cultural excellence and inspired other countries for volunteer assistance

when the human beings are in danger, shattered, wherever they may be. This is a clear example of humane sensibility and awareness that has percolated in the hearts of the mankind as a whole.

By the by the distressed and suffered people of Kodagu and Kerala, might have lost their all assests. But it is interesting to note that they are endeavouring with ingenuity towards alternate enterprises for their livelyhood identity. It is positive action of promptitude.

*(We the authors acknowledge with gratitude to the help extended to us by Sri Shantamallikarjuna Swamiji of Arameri Mutt, B.C. Dinesh press correspondent, Kodagarahalli, B.E. Veeraraju Nanjarayapattana, T.C. Thammaiah, and S.S. Sampat Kumar (Seva Bharati) Madikeri, G. Rajendra (Shakti), Ulliyada Poovaiah (Bramhagiri), Dr. Subhas Mechira Nanaiah, Yatish and Smt. Dhanalakshmi Jodupala, K.E. Krishnappa Naik, Chinnappa Naik 2nd Monnangeri, L.K. Suryaprakash Survey dept., Sri M.P. Lakshman, Ponnampet, Smt. G.V. Deepa, during our research field work regarding the effect of deluge in Kodagu and thanks to Sri N. Tippleswamy, (Kshetria Karyavaha)*