Abstract

This paper consist of the effect on Uttarakhand Tourism Industry and environmental unbalance by natural calamity of June 2013. Keeping in the view the fact of sensitivity of the mountain and effect of several kind of development in the mountain region has been sole reason of this disaster as nature has given intimation of its brutal behavior several times earlier also. There are numerous negative impact on Uttarakhand economic and ecological unbalance due to the disaster which the state has to faced. Every element which is responsible for monetary and environmentally losses has been taken in to consideration. Measure of restoration and action of plan with conclusion and recommendation has been focused in this paper.

"Hazard is Natural but Devastation is due to Human Actions"

INTRODUCTON--Tourism is recognized in present scenario the energy of human life which is not only influenced the several part of once life but also plays magnificent role to deal with the social in-equitability, scarcity and poverty, economic impartiality spread among the society. Tourism objectives can be for Business purposes, religious, recreation or for Entertainment motives. Tourism is also a curiosity to attain the information and knowledge of the area where tourist visit and preserve the information for multiple dimensions i.e. business, education, leisure, economical and for social being or host communities. Development of tourism does not only means growth of tourism but also considered to preserve and maintain the heritage, custom and culture tradition of once country and also generate employment, business, living standard and directly affect the host communities and strengthen the global tourism development . All these elements creates an important role for sustainable development of tourism and boost the factor for economical development of India though development of tourism.

Sustainable tourism can be taken in four different interpretations that include economic sustainability of tourism, the ecologically sustainable tourism, sustainable tourism development with both focus of environment as well as long term feasibility of the industry and finally tourism as a part of a strategy for sustainable development. Therefore, the purpose of this research is to adopt integrated approach and establishment of new plans for the sustainable development of tourism in Uttarakhand .

Tourism scope is very large but mountain tourism are most interesting as it make us feel very touched towards the nature and in legends of ancient Indian culture mountain are the house of god which is considered as holy place for the Indians and Uttarakhand is called Devbhoomi which means there is existence of god in this place.

International significance of mountains was accepted at the United Nations Conference on Environment and Development, held in Rio de Janeiro. Chapter 13 of Agenda 21"Managing Fragile Ecosystems: Sustainable Mountain Development" It was further highlight by the designation of the year 2002 as the International Year of Mountains (IYM) by the General Assembly of the United Nations. The mountain region share similar bio-climatically attribute and concern across the world mountain area. Several mountain region reacts with the natural hazards i.e. landslide, earthquakes and floods, volcano, natural disaster resulting in deadly
Calamity is a wrath of nature but the devastation and loss of lives that followed is certainly manmade (Uttarakhand Tourism: Recipe for disaster 2013) Akash Bisht Delhi.

Surabhi, Gaurav and Deepthi (2008) stated that An Uttarakhand Tourism Development Master Plan for 2007-22 has been developed that is coordinated by the Government of India, Government of Uttarakhand, United Nations Development Programme (UNDP) and World Tourism Organization. The aim of this plan is to develop high-quality sustainable tourism infrastructure, facilities and products in the prime tourism zones of Uttarakhand state. The plan attempts to identify, define and describe these zones and their unique resources. It also proposes how such resources can be utilized to create different viable and sustainable nature and culture-based products of various standards. The prevailing resources of the Garhwal and Kumaon regions need to be utilized along with trying to sort out the problems associated with the development of tourism in these regions.

Bhapai, Wadhwa and Mahna (2014) summarized that Uttarakhand “Uttarakhand is a multi-hazard prone State. Hazard are based on the likely occurrence of each type of disaster both in terms of frequency and magnitude. This geo-dynamically active terrain is characterized by complex geo-environmental conditions which place this fragile landscape in a high vulnerable category for natural disasters.” The natural calamity occurs in Uttarakhand have swallow over a hundred lives and thousands are trapped, waiting to be rescued from monsoon violent nature. The natural tragedy also destroyed crucial infrastructure such as roads and bridges, erasing the livelihoods of local communities. Many families lost their sole earning members. As villages crumbled, many locals saw their entire lives washed away.

(Fig 1: Affected Areas of Uttarakhand by disaster 2013)
(International Journal of Life Sciences Research ISSN 2348-3148 (online) Vol. 2, Issue 2, pp: (8-15), Month: April 2014 - June 2014) (Ajeet Bajpai1, Dr NC Wadhwa2 and Dr VK Mahna)

Dave Petley, Professor, Department of Geography at Durham University, United Kingdom prepared a report on the Disaster 2013. According to Petley, “a massive landslide (in the north-east region of the Kedar valley) and heavy rainfall (in the north-west of the Kedar valley) occurred at the same time and formed a small lake. Under normal circumstances, water would have formed by debris led to the accumulation of water. When extreme pressure caused a breach in the boundary of the lake, a large amount of water gushed out, forcing another rock to
addition to the two streams that existed already. The amount of water, moraines and debris was high enough to increase the level of the biggest stream in the west, creating a new stream in between, and increased water level substantially in the eastern stream. The debris from the landslide and water from the lake travelled down the slope, channeled into the glacier, and came down to Kedarnath town. High resolution images show that the large amount of material. The amount and f debris was so high, that the boulders did not stop at Kedarnath and were carried to Rambara village and beyond.

Amit -mentioned in his research that “Tsunami” is a term that refers to a long high sea wave caused by an earthquake or other disturbance e. The state has faced an unprecedented amount of natural disaster due to a combination of factors, such as early heavy rainfall, movement of southwest monsoon winds, and the formation of a temporary lake. A sudden gush of water engulfed the centuries-old Kedarnath temple, and washed away everything in its vicinity and nearby area in a matter of minutes. The Chief Minister of Uttarakhand ,Vijay Bahuguna, mentioned in a press conference that “I would call this natural disaster the ‘Himalayan tsunami’”, such was the impact of nature’s fury.

Preliminary Assessment of the Uttarakhand Disaster 2013

<table>
<thead>
<tr>
<th>SL</th>
<th>Nature of Damage</th>
<th>Number</th>
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<tbody>
<tr>
<td>1</td>
<td>Affected persons</td>
<td>5 lakhs (approx)**</td>
</tr>
<tr>
<td>2</td>
<td>Affected villages</td>
<td>4,200</td>
</tr>
<tr>
<td>3</td>
<td>Severely affected villages</td>
<td>over 300</td>
</tr>
<tr>
<td>4</td>
<td>Persons injured</td>
<td>4,463</td>
</tr>
<tr>
<td>5</td>
<td>Number of dead persons</td>
<td>over 900**</td>
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<tr>
<td>6</td>
<td>Number of missing persons</td>
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</tr>
<tr>
<td>7</td>
<td>Number of pukka houses damaged</td>
<td>2,679</td>
</tr>
<tr>
<td>8</td>
<td>Number of kuccha houses damaged</td>
<td>681</td>
</tr>
<tr>
<td>9</td>
<td>Number of animals lost</td>
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<tr>
<td>10</td>
<td>Number of roads destroyed</td>
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</tr>
<tr>
<td>11</td>
<td>Number of bridges washed away</td>
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<td>12</td>
<td>Number of drinking water schemes damaged</td>
<td>1,418</td>
</tr>
<tr>
<td>13</td>
<td>Number of villages without power</td>
<td>3,758</td>
</tr>
</tbody>
</table>

Fig—2 Source: (DMMC) Disaster Mitigation & Management Centre, UNDMT, United Nation Disaster Management Team, 2013

Note: *These are government figures. Most unofficial estimates of dead and missing are much higher

Ravi Chopra (2014) finds in his research that “Uttarakhand has to be prepared to effectively manage disaster emergencies at tourist locations where large numbers congregate regularly. Guidelines for building safer, green roads in the mountain regions need to be followed rigorously. Also, earthquakes safe building constructions must be promoted in rural areas for safer habitations. Establishment of effective disaster management systems and procedure at the community, district and state levels will require good governance. Governments and administration cannot do everything by themselves and civil society must be engaged by the state as an active partner in disaster management. The June 2013 disaster is a warning bell for the economic growth model being pursued in all the Himalayan states. Himalayan mountains are too fragile to sustain rapid and intensive development.”
Josefa, 2004 It is expected that there might have been some significant improvements in the two major components of economic and social infrastructure in the State and particularly in the study area. Analysis of the existing status of infrastructure development in the study area in contrast to the progress of achievement has been made on this front. Insight from the concerned area revealed that the region has an immense growth capacity and further this region could be well developed and various facilities are needed to meet out the large tourists demand.(Fonia, 1977)

The highly powered decision-making body Uttarakhand Tourism Development Board covers the vast gamut of tourism and tourism related activities, be it planning, development, infrastructure and financial assistance. This should form the basis for the years to come. Uttarakhand state participation in infrastructure development has become necessity in order to provide public utilities to the community at an affordable price as well as removing the mismatch between the services utilized by the guest and hosts. Development of key infrastructure, an essential stimulant to planned economic growth cannot be left to the vagaries of market force and is, therefore, to be provided by the State. Tourism is also a multidimensional industry having an interface with several sub-sectors of the economy.

INVITING DISASTER AND NATURAL CALAMITIES :-

HUMAN- INTERVENTION & INFRASTRUCTUTAL DEVELOPMENT---The Development of human habitat and population in the said area made conducive surroundings for such a dangerous process occur in this Valley. Infrastructural Development is the sole reason of disaster in the mountain areas as unplanned construction has been made by the cutting of mountain. Mountain cutting and expansion of road is also the major issue for this calamity. Many explosions were also made due to fast development of Tehri Dam by which mountains are shaken and heavy construction made in the root of Himalaya. Though it was planned with the natural environment but it also cannot be ignored as a reason of this harmful and violent behavior of nature. The number of hydro-power project has been started in this sensitive zone and no local community is benefited with these project.

DISTURBING THE NATURAL RESOURCES -- The said state has received maximum rainfall during the period of May and June of disaster year 2013. Disturbing the rout of water and diversion of it which explore very brutally in the mountain area. The river Alaknanda and Mandakini occupied their flood ways and started flowing along the old courses where human habitation had come up with passage of time. Hence the furious watercourse destroyed the buildings and other infrastructure that came in its way. Nature has several time reminds in the previous years for its violent behavior. Every year rivers of that area, Mandakini and Ganga flows above of its danger points, many landslides also reminded of nature aggressiveness in the previous years but repeated ignorance of all this resulted as disaster of Uttarakhand.
GLOBAL WARMING---Global warming is a major reaction of natural disaster in today’s world. Due to industrialization and atomization earth is eating up and temperature is increasingly resulting in global warming. It has direct effect on the snowy mountain. During the summer months a huge quantity of water was probably released from melting of ice and glaciers due to high temperatures. The water not only filled up numerous landslides also took place after these heavy rains and toe erosion of the slopes by the high velocity and volume of water loaded with sediments, stones, rocks and sand. Diversion of forest land leads to loss of forests and is known to add to global warming.

DEFORESTATION--- Deforestation is the source for change in climate. Unsystematic felling of trees and no substitution with fresh ones has caused much environmental damage in the Uttarakhand region. The largest amount of deforestation in Uttarakhand has increased. Deforestation straightly increases the possibility of erosion, landslides and floods, solid becomes exposed and without any binding that forests provided. Deforestation is the main cause of all hydropower projects of Uttarakhand. All such projects should have environmental clearance so that nature is not disturbed with the development of these projects. A forest takes at least a decades to reach maturity. Its damage can’t be compensated in very less span of time or in few years. There is necessity of adequate step to protect roadside exposed area with suitable plants along with manufacturing works.
A brief report from South Asia Network on DAMS, RIVER & PEOPLE after completing two years of Uttarakhand Disaster has mentioned that one of the enduring debates since that the uttarakhand tragedy has been about the role of existing and under construction hydropower projects in increasing the proportions of the disaster. A lot of water has flown down the ganga in these two years, so let us revisit the important milestones of that debate. Within two months of the disaster, a bench led by justice Radhakrishnan gave an order on Aug 13, 2013, asking the union ministry of environment, forests & climate change (MoEF&CC) to appoint an independent panel to assess the role played by existing and under construction hydropower projects in the disaster. The expert body led by Ravi Chopra committee so formed in Oct 2013 gave its report in April 2014. The existing and under construction hydropower projects had indeed increased the proportion of the disaster. This zone is fragile in nature due to unpredictable glacial and paraglacial activities.

So on Dec 5, 2014, the MoEF filed a landmark affidavit in the Supreme Court. Some of the noteworthy things said this affidavit. The large & small hydro power projects on the Ganga & her tributaries all over the Himalayas are a threat to the aviral dhara of the Ganga. The absence of this is leading to a serious threat to the biodiversity of the Himalayan ecology.” “The (IMD) analysis also mentioned that anthropogenic activities has also led to massive over-exploitation of the local environment, thereby loosening the top soil and making the region susceptible to landslides and flash floods. “On Dec 30, 2014, MoEF issued an order constituting a 4 member committee including Prof Vinod Tare (IIT Consortium), Dr V B Mathur (WII), Brajesh Sikka (scientist in the environment ministry) and Dalel Singh, a representative of Union Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR ). The committee, after its last meeting on Feb 4, 2015 submitted a report on Feb 12, 2015 that concluded: "Considering the existing available reports on the subject and after interaction with the developers as well as interveners as per the order of MoEF, committee is of the view that the six projects may not be taken up as they have potential of causing significant impacts on the biodiversity, riverine system, wildlife and other fragile eco-systems in the areas where these projects are located due to altered hydrological parameters. As such entire process of according clearances to these projects warrants review."
ECOLOGICAL & ECONOMICAL TOURISM -- Ecotourism is a form of tourism which grows rapidly without disturbing the nature areas. Its main objective is to make aware the travelers and tourist to generate revenue for ecological conservation to strengthen the economical growth and respect to various culture. Since long back ecotourism has been considered endeavor by ecologist so that human intervention cannot effect on nature for the future generation. Its offer tourists the destination where flora, fauna are major attraction and preservation of cultural heritage. Ecological tourism is considered that which reduces negative aspect of conventional tourism or economical tourism on the environment and enhances the cultural integrity and provide economic opportunities for local communities. Tourism impacts on the environment are both direct and indirect, and often are not easily observable.

“Tourism’s ability to generate socio-economic opportunities and help reducing the gap between rich and poor is more important than ever ” stated by U.N Secretary General on World Tourism Day 2011. Tourism is a universal force for economic and local development. Presence of economic factor motivated the tourist planner, entrepreneur and local people indulged in service industry or business activity across the country and state of Uttarakhand to choose tourism for economic development. Survey report (2013) PHD Chamber of Commerce and Industry reported. “The devastation caused by torrential rains that lashed Uttarakhand in the month of June 2013 expected to cause a loss of Rs. 12,000 crore to the State’s tourism industry”

ECOLOGICAL & ECONOMICAL CORRELATION – Ecological and Economical tourism are interlinked with each other as one put effect on the other one. Both ecological and economical categories of tourism should be balanced as disturbance in any among these two can give severe effect. As Uttarakhand is world famous of its scenic beauty and people visit here for their mental peace. Huge intension of economic factor can distract the natural beauty of the state therefore nature based tourism should be promoted in the mountains of Uttarakhand. As National policy of tourism is also focusing on the nature based tourism market segment and though its...
ADVERSE ECONOMICAL EFFECT: On 16 & 17 June 2013 was the days of natural calamity in Uttarakhand and in this year state received heavy rainfall which was 375% more that the benchmark rainfall during normal monsoon which cause huge loss to lives and properties and specially disturbing the peak seasonal activities to Char Dham, Pilgrimmage i.e. Gangotri, Yamunotri, Kedarnath and Badrinath areas. Uttarakhand had a great economic loss, Roads, bridges, powerlines, irrigation canals, drinking water supply systems, telecommunication towers and hotels and houses were destroyed or damaged. Joint Director, state Tourism Department, A.K Dwivedi said in an Article published (June 2013) that “Thousands of hotels, inns and residential houses have been severely affected by the flood and hundreds among them have been obliterated” A large population of that area operate taxis, buses, lodges dhabas and stalls, some guide people who ride their horses or ponies while others are porters carrying the young, old and infirm on their backs on their shoulders. Thousands of these people and the animals were simply swept away by the deluge at Kedarnath. Restoration of number of rural families basic livelihood is a prominent challenge for the state government.

TOURIST ARRIVAL --The scope of tourism is considerable in this state, whether it is nature, wildlife, adventure or pilgrimage. Uttarakhand economy mainly relies on tourism industry. Arrivals of tourist in Uttarakhand is increasingly year by year from the formation of the state in year 2000. Uttarakhand has huge potential for tourist industry as it is world famous with the title of Devbhoomi land of God. The state has received fifth position in the country for the foreign and Domestic Tourist arrival as per Ministry of Tourism, Government of India report. But due to disaster the arrival of tourist are deteriorated. Tour operators claim that due to the tragedy brought about by torrential rains, business in this sector in cities like Mussoorie and Nainital has come down by 20 to 30 per cent. The state is under economical loss due to non visit of tourist as they have scary impression due to disaster of June 2013. The survey conducted by the PHD Chamber of Commerce and Industry also estimates that around 11 per cent of Uttarakhand’s Gross State Domestic Product (GSDP) for this fiscal has been ruined in terms of prospective tourism earnings on account of the flood in all its riverbeds. While the ‘char dhams’ may take years to recover from the damages caused by the natural calamity, even places like Mussoorie and Nainital that did not have to bear the brunt of the disaster have witnessed a steep decline of 75 per cent in tourist traffic post the June floods with fear-stricken visitors cancelling their trips to these tourist hotspots, says a study by ASSOCHAM Social Development Foundation (ASDF).

FOREIGN TOURIST ---There are number of foreign tourist use to visit the Uttarakhand state in the summer season. Tourist plays important role in Uttarakhand's economy which also include foreign & Domestic tourist investment in order to have state share in the growth of national income. The visit and interest of these tourists in Indian culture motivate India to maintain and conserve the cultural heritage in India. But fig of foreign tourist has came down by which the state is facing financial loss.

DOMESTIC TOURIST ---Indian domestic tourists in Uttarakhand has major share of tourist in the form of Religious and for Yoga purpose from the ancient time. Indian has died in the natural calamity in several numbers we can’t even figure it out till yet. The grief & pain of losing their beloved one is still with the family members of the lost one due to this reason people avoid visiting such places where they has lost their beloved one.
EFFECT ON NATIONAL HERITAGE AND HISTORICAL TEMPLES --- The scenario in and around the Kedarnath valley resembles the debris of Indus valley civilisation. Massive tourist in Uttarakhand visits because of religious purpose and it also promote national unity as they also believes in brotherhood. The calamity of Uttarakhand marked the most worst natural calamity and its effect the emotions and belief (ashta) of thousand of tourist who visit for their religious and emotionally attached to the holy place and temples like Kedarnath and Badrinath, Hemkund sahib. Government of India did not declare Kedarnath as eco-sensitive zone on January 2013 because of the mining and other timber related business which operate in Uttarakhand. Innocent Indians paying the price of this. The disaster very badly effect these ancient temples which are consider the heritage of India and also Kedarnath the most ancient famous Hindu pilgrimages of the world has been regarded as one of dham among char dham of India. The famous Char Dham pilgrimage is now discontinued for three years for repair and restoration ("Plan ahead", 2013)

(Fig -6 Kedarnath Temple pre –disaster )

(Fig -7 Kedarnath Temple post disaster )
EFFECT ON HOTEL INDUSTRY IN UTTARAKHAND --- As the flood washed away the entire obstacle comes in its way. Hotel industry in Uttarakhand had faced a great economical loss during this disaster. Number of hotels was collapsed and damage due to flood of June 2013. This economic loss had put very adverse effect on the owner of hotels and the business of these people was completely blocked and they are not even in the condition to restore their economic loss. The businessmen are completely dependent on their hotels for their livelihood and they are facing miserable situation to cope up with the economic crises. Local people are also earning their bread while working in these hotels and was the sole earner in the family and their dependents facing great difficulty for their survival. The hotel industry across the state has faces en masse cancellation of bookings. "About 100 small hotels and restaurants have been perished in the tragedy and a lots of time will be needed to cope up and restore the damages caused as said by Praveen Sharma, Joint Honorary Secretary, Hotel & Restaurant Association of Northern India (HRANI), who owns hotels in Uttarakhand.

LOCAL HABITAT & LOCAL VENDORS -- As Uttarakhand is hilly area and number of local people are engaged in local business such as shops, transportation and selling items prepared by them such as basket, items made of woods and local jewelry which is very popular among the visitors. Due to decline figures of tourists business of these local vendors are completely stopped and they are searching work for them for survival and left behind for coping up with economic loss.

TRANSPORTATION --- The valleys is facing heavy traffic of tourists. The state government has to construct new roads and widen the existing ones, "says Maharaj Pandit, professor with the Department of Environmental Sciences in Delhi University. The massive expansion of roads and transportation are affecting the mountains in Uttarakhand. As per details give by Uttarakhand State Transport Department confirms that 83000 odd vehicles were registered and till 2013 the figure of registration of these odd vehicles raised till 180000. It is a factual study that tourism increased and incidence of landslides are interlinked and co–related among each other by (Jyotsna Singh, June 2013 " Man Made reason for Uttarakhand Disaster ) Down to Earth. The disaster not only swaps life of several people but also damages the infrastructure the roads and bridges of the entire affected areas. This is a great loss to the government to restore all the losses of transportation and infrastructural.
GOVERNMENT TAXES --- The state government has a very good share of its income from the tourist industries especially from the foreign tourist. The state government generates revenue from the various taxes i.e. taxes on transportation, toll tax, hotel taxes and service taxes. There are great decline in the taxes due to disaster as government has to restore the industry and need to give rebate on taxes restoration plan ahead.

MIGRATION OF LOCAL PEOPLE---- The calamity has damage all the livelihood of people living in that area. locals are fighting for their bread and butter and it’s very difficult for them to arrange one day meal their houses were damage, beloved ones are dead and no hope for survival is there for local people. People migrate from area where they lost everything for their survival. Mountains are isolated due to migration of massive population for their basic needs.

"Nature knows no pause in progress and development, and attaches her curse on all inaction."- Johann Wolfgang Von Goethe.

ADVERSE ECOLOGICAL EFFECT -- Environment of Uttarakhand is a gifted from heaven on earth. Flora and Fauna in Uttarakhand has very vast range. Wildlife is prosper in the forest of this state. There are various flora and fauna in Uttarakhand and parks of National level has been established here which are with the sole objective of preservation of habitat for flora and fauna and it’s a big centre for information for the visitors, student & tourist. Sports tourism like mountaineering, tracking, river rafting are effected and there is a massive false in visit of sport tourists. Local people are completely dependent for agriculture, cattle ling. The disaster disturbed the entire ecological environment. The endemic plant wealth of Uttarakhand is worth mentioning as it ultimately forms part of the National heritage. Uttarakhand Himalayas have about 116 species as indigenous group. Are naria ferruginea; Chimonobambusa jaunsarensis, Gentian tetrasepala, G. saginoides, Meeboldia solenoids, Microschoenus duthiei, Trachycarpus takil, Poa rhadina, etc The disaster not only damage the ecological environment but number of animals, cattle and people who were dependent on domestic animals has to scarifies their life due to natural calamity. Soil erosion, landslide and changing of plates of Himalaya and due to deforestation the cause of change in temperature/climate has effect and damage the environmental balancing system.

CONCLUSIONS AND RECOMMENDATION –

- A centre for approval for any kind of project, construction and development should be established by the state government which can focus on sensitivity and should take geographical aspect in to consideration after brief survey before initiating any development at mountain area.
- There is need to seriously consider forestation. Deforestation should be completely ban and planting of fast growing trees species having capability of breaking velocity of rain drop and hold the soil and protective works in the week areas and green project should be taken into consideration.
- Road side exposed area should be utilized by planning shrups and hurbs and landscape management should be done
- Data base of tourist should be prepared for every tourist who visit the state according to which state he or she belongs for domestic tourist and country wise for foreign tourist. A tourist card should be issued to such visitors after their tourist insurance.
- Tourist should not independently visit the desire destination. A troop of number of tourists along with troops members like doctor, guide and member of tourist force should visit in the risky destination.
- As army has played very significant role in rescue operation of the disaster. A special tourist force for mountain region should be set up and also depute at every sensitive area after giving a special training to deal with such hazardous situation.
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