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BDMSM

Remembering our heroes on World Ranger Day

Ugyen Tshering, ICS with inputs from Ngawang Gyeltshen, former Dy. CFO, NRED



Rangers fight to cross raging river which threatens to sweep them away

Bhutan is lauded for the global leadership in conservation. As a country rich in biodiversity and championing conservation, we have received several global awards and recognitions such as the Paul Getty Award for Conservation Leadership, UNEP 'Champion of Earth,' and the Kyoto Earth Hall of Fame. Rangers form the forefront of our conservation efforts.

Rangers spend more in the forest than at his home. They ensure that our natural heritage is protected for future generations. Rangers are high up in the alpine mountains bracing frigid mountain temperature, walking knee-deep in thick snow, negotiating gaping crack in the glaciers. Rangers are down there in the south fighting hot and humid sub-tropical temperature, crossing swelled and torrential rivers,

patrolling in the forests infested with all types of ferocious wild animals, poachers and hunters. And with growing lucrative markets for wildlife and wild products, their jobs are becoming ever challenging.

On an average, it is said that a ranger spends more than 20 days a month scouring the forests for any sign of

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Remembering our heroes on World Ranger Day



Best available cozy bed under the rock

poaching, trafficking, smuggling, illegal hunting, fishing, logging and other illicit wildlife crime. Studies in the region indicate that 76% of Asian rangers spend less than 10 days a month with their family. This nature of their jobs expose them to daily variety of threats – from wildlife attacks such mauling by bears, snake bites to being targeted by poachers. The worst fears are confronting poachers, smugglers and other criminals who are wary of the rangers. Sources confirm that, often, life hinges on who detects who first. In many parts of world, Rangers are shot and are killed in such battles.

In addition, they have to confront unpredictable weather situations and rugged terrains. They have to cross several swelling rivers, negotiate sheer cliff, push their way through thick forest. High up, they have to fight thin mountain air, brace frigid temperature. Hence, many get washed away by rivers, fall from climb, get struck by falling tree branches, froze to death, fall into the gaping hole in the glaciers, all in line of their duty.

It is with this recognition that, every year, July 31 is observed as World Ranger Day. A day in a year is commemorated to those Rangers who have sacrificed their lives in the line of duty. Conservationists

and foresters come together on this day to remember and pay respect and tribute to the fallen heroes, who lost their lives in the course of performing their duties.

On this World Ranger Day, we would like to remember our Bhutanese Rangers who lost their lives in the line of their duties. While records are scanty and many lost their lives in the past, we reflect few examples and pay respects to them and the rest.

Every time they head out on patrol, their safe return is never guaranteed.

According to International Rangers Federation at least 107 rangers lost their lives in last one year - 42% to poachers and 17% to wild animals. In South and North, Rangers in Bhutan are exposed to lots of risk as they patrol the dense jungles. Every day, they leave their home like a soldier going to war. They face an unpredicted war against hunters, poachers, smugglers, illegal loggers, illegal fishermen and people engaging in illegal forestry activities. These people know if caught, they will land up behind bars or get fined. Hence, they too come prepared in defending themselves. Often it is about "who sees first." You're not safe until you get rid of your enemy.



Lt. Langa Tshering, a senior ranger, Gedu Range

Late Langa Tshering was a seasoned crew leader for the National Forest Inventory (NFI) leading an inventory crew for the past few years. As the NFI exercise was coming to an end, he lost his life during a field assessment of a difficult plot in Pantang, Zhemgang on December 26 last year.

The NFI crew remembers him as hardworking and dedicated to the exercise. On his last assignment, while the crew members were engaged in locating the area for mapping using satellite signal, he was looking for the safest route out and clearing it. That was when he lost a foot and went tumbling down 200-metre cliff.

There are many such harrowing stories that abounds the lives of the rangers or foresters who daily risk their lives so that the natural heritage of our country is protected. Several years ago, RMNP rangers travelling from Gelephu to Manas Range was blown up by IED and were severely injured. A JDNF ranger on Cordyceps duty died while his motorbike collided with the truck while a ranger in south was hit in his arm during crossfire with miscreants. Last year we lost a Ranger from WCNF in the mountains. A forester in Sakteng Wildlife Sanctuary, fondly remembered by his friends as Meg (Meg Bdr Karel) lost his life to falling boulders while returning to his duty station in Sakten from Phongmey Park Headquarters.

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Remembering our heroes on World Ranger Day



We pay our humble tribute to you all and are always remembered by the fraternity of the Department of Forest and Park Services.



Lt. Sither Dorji, Chief Forestry Officer, Tsirang Forest Division

In the most recent case in 2016, Department of Forests and Park Services lost one of its most senior and experienced personnel while performing his duty. Lt. Sither Dorji who served as a Ranger in various offices in the past was last serving as the Chief Forestry Officer for Tsirang Forest Division when he succumbed to the injury he sustained when the official vehicle he was travelling was hit by a massive boulder.

Despite the incessant monsoon rains and numerous road blocks, damaged bridges, swollen streams and river, He was on duty which cost him his life.

To the utmost relief, Ranger return to his family from a patrol

Every step that they take can be confronted with danger. No one knows what awaits hiding behind the bushes, rock and even tree tops. If it is not the poachers, it can be the huge male tusker, King of the Jungle or the one-horned rhino that come charging them. Otherwise, it can be weather, the rain battering or torrential river threatening to wash away or a mistep negotiating a sheer thousand foot cliff. When this happen, they are either killed or if not left injured that may disable for life.

To those brave and courageous Rangers who put their lives before their service to the nation, who devoted their lives to the protection and conservation of our precious plants and animals species, landscape and other natural

treasures at the cost of their own dear life, we offer our prayers and commiserations. We remember you for patriotism, dedication, commitment and remain enormously impressed and grateful.

Four Phibsoo Wildlife Sanctuary Rangers left dead with another two injured

In one of the most gruesome incident, an attack by militants in December 30, 2008 killed four Rangers of Phibsoo Wildlife Sanctuary while another two were severely injured. Tshewang Norbu, Tashi Tshering and Wangchuk with few other officials were on their way back to Phibsoo from Sarpang. The tractor they were travelling was blown off by an IED planted on the road, four kilometers west of Singay village in Sarpang. The attackers are said to have fired and killed four on spot whose bodies were burnt using tractor tyres. Other one, severely injured with two bullet wounds could manage to limp and call for the rescue. The team then rescued an injured forester hiding in the forest. However, sources revealed that their death were a huge sacrifice. The actual target of the terrorists was a group of 30 foresters who would be shifting their camps on the first day of every month.



Promotion of watermelon production technology in Zhemgang

Dzongkhag Agriculture Sector and RDSC-Tingtibi, Zhemgang



Field demonstration & harvesting

Everyone seems to love juicy watermelon in summer. It is generally grown for its juicy flesh which is very sweet and refreshing drink. The Dzongkhag and Geog Agriculture Sectors in collaboration with Research Sub-Centre, Tingtibi initiated demonstration on semi-commercial watermelon production at Tingtibi, Berti, Goleng and Sonamthang. The program also promoted the rice based relay cropping practice in Zhemgang, the first of its kind.

Nursery was prepared in poly tube plastic through support of research during 2nd week of November 2015 and transplanted in 1st week of February 2016. A hands-on-training

and demonstration was conducted covered nursery till harvesting stages. As a part of farmer-to-farmer interaction to share ideas and knowledge on watermelon production, the Dzongkhag Agriculture Sector conducted a daylong field day on 7 May 2016 through RGoB fund.

Many fold advantages of growing watermelon were discussed so that farmers could learn and be encouraged. According to research, watermelon performs well in the wetland and its growing period does not affect the paddy cultivation. It also fits well with the rice base cropping pattern. Watermelons seen in the market during March to April

are the imported ones from India.

Bhutan has potential to produce watermelon during the extreme summer in June which can boost domestic market. Before the shoots runs, all interspaces should be mulched with dry grass which upon rotting improves the soil nutrition and condition for the succeeding crop. This dry grass mulching or bedding typically helps easing the tendrils to catch hold of and enhance shoots to run across all inter spaces. The mulching technology helps to suppress the weed growth, retains soil moisture and ultimately prevents the fruits from rotting.

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Promotion of watermelon production technology in Zhemgang

Production tips: The Sector advised the participants that the seed sowing be done in last week of January to mid February to avoid fruit fly infestation. Watermelon, pumpkin and any other cucurbit seed can be sown directly in the field. However, for the purpose of demonstration and to ensure uniform planting in the field, the Sector demonstrated nursery preparation using the plastic poly tubes inside the makeshift poly tunnel. Participants were made to collect well decomposed farm yard manure (FYM) and were thoroughly mixed with normal soil. This soil media are made to fill in the plastic poly tubes and about one to two seeds were sown. All the potted seeds were placed on the labeled ground and were well watered. Nursery is then covered with the plastic sheets in order to regulate and adjust the micro environment. After the germination, plastic sheets were removed during the day and covered back to avoid burning of seedlings. Many such after care tips had been discussed during the practical sessions.

In order to gain idea on transplanting



Water melon nursery

methods and field management, the Sector also demonstrated know-how on field preparation and transplanting techniques. When seedlings are ready, it should be transplanted in the main field. For watermelon and pumpkin, one should use Japanese method of improved cultivation techniques.

After field have been ploughed and rotorvated, it should be designed and prepare mound of soil leaving about

1.5 to 2m from plant to plant whereby one acres of land holds about 450 hills or plants. Each mound should be incorporated with 3-4 kgs of well decomposed FYM and have to be thoroughly mixed. Every mound after transplanting should be covered with plastic sheet over the criss-crossed bamboo frame. This plastic sheet should be prepared 4-5 circular holes in order to maintain and regulate the micro-climate. This plastic cover should be kept until seedling touches the frame. Before plants initiate shoot branching and starts running over the ground field, dry grass bedding or mulching should be done.

Dry grass or rice straw mulching has the multifarious advantages in the farming system. It begins by avoiding direct fruit contact and reduces the rotting problem of watermelon followed by ease running and spread of shoots. It also helps to retain the soil moisture and suppresses the weed growth. Ultimately decay of dry grass or use of any organic materials as the mulches will improve the soil nutrients for the succeeding crops like rice in rice base cropping system.

A field day was proved successful for farmers helping them understand new ideas and experiences. They are expected to share their gained knowledge with other household members around to enhance production in the next season.



Field visit and demonstration



Leisure

SAP competition

School Agriculture Programme (SAP), coordinated by Department of Agriculture (DoA), MoAF and Department of School Education (DSE), MoE is pleased to announce the Literary and Poster Competition for SAP Schools.

Terms and Conditions: Both Essays and Posters should be hand written in A4 paper with clear address (name, class and school, contact details written at the back of the paper).

The articles or entries should be submitted on or before 30th September, 2016. The winning articles or entries will be awarded with Cash Prize and Certificate. The winners will be announced on 16th October, 2016. The articles or entries can be sent either through post (Chief Horticulture Officer, Agriculture Production Division, DoA, MoAF) or Fax (02-325837) or email to anjsubba@gmail.com. For any inquiry, contact at 16902410 during office hours.

Summary of Bhutan's State of Parks Report 2016

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Sudoku Puzzle

Fill in the grid with digits in such a manner that every row, every column and every 3x3 box accommodates the digits 1-9, without repeating any.

Answer in the next issue

		2			5	9		3
	1		3	8			6	
9				3				
			5		7			8
5	4			2		3		
2	6							
	8			4		7	5	
7		1						

Last week's solution

1	3	5	8	4	6	2	9	7
6	7	4	3	9	2	5	8	1
8	9	2	1	5	7	3	4	6
2	8	9	4	1	3	6	7	5
3	4	7	5	6	8	1	2	9
5	6	1	7	2	9	4	3	8
7	1	8	6	3	4	9	5	2
9	5	3	2	8	1	7	6	4
4	2	6	9	7	5	8	1	3



Promotion of bulb onion in Zhemgang

Dzongkhag Agriculture Sector, Zhemgang; RDSC-Tingtibi and National Post Harvest Centre, Paro



Onion in the curing house

Irrigated wet lands are usually used only for paddy (May-October) and left fallow afterwards in as a traditional practice to build up soil fertility for paddy. Large volumes of bulb onion and water melon is being imported from India despite huge potentials of practicing rice based relay cropping for domestic production of bulb onion in a semi commercial basis.

Findings from the Agriculture Research Development Centre, Wengkar showed that growing bulb onion fits into cropping pattern of rice fallow system. Onion is also reported to have less damage from stray cattle. Comparing to potato and other vegetables, onion is comparatively easier to manage due to less pest and disease.

In 2016, the Dzongkhag Agriculture

Sector, Zhemgang has introduced production of bulb onion on a semi commercial basis for farmers group of Goleng, Berti and Sonamthang community as the research and extension collaborative activities. Goleng and Berti together harvested about one tones of onion this year.

Since production of bulb onion turned up to be a promising and successful, the Sector conducted a day long field day on 6 May 2016 to demonstrate and showcase production technology, improve farmers' exposure on technologies, facilitate farmer to farmer interaction and create awareness on promotion of rice based relay cropping system.

About sixty farmer participants turned up for the program which was graced by Dasho Dzongrab. Dasho commended and advised the field staff and farmers group to scale up these activities which will ultimately help in generating the rural households' income in Zhemgang.



Onion plantation

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Promotion of bulb onion in Zhemgang

Prior to the field visit, a short technical presentation was presented on production technology from nursery production till post harvest that was implemented in farmers' and research fields. Nursery was raised at the end of October 2015. Nursery bed preparation and soil solarisation should be done 15-20 days before sowing. Well decomposed farm yard manure was incorporated into the soil followed by watering. Dry grass or paddy straw mulching was done over the seeded beds to retain soil moisture and temperature. Close monitoring was done to check the germination. Soon after germination, the dry grass mulch or cover was removed.

Overage seedlings, if transplanted was learned to cause bolting and younger seedling establishment is poor. Four to five weeks old seedlings which had attained the height of about 15-20cm was transplanted in the main field in December 2015. Transplanting was done at the stage of initial pin head bulb formation.

It is very crucial to harvest at the right stages. When bulbs reached the maturity stage, the plants ceases to produce new leaves and senescence starts. At this stage, the top just above neck of the bulb weakened and bend down still remaining green. Attaining the 50 % of the neck fall is right stage of harvesting. Delayed harvesting results in splitting of



Low cost onion curing house

bulbs and bolting, such bulbs do not store well in storage. Harvesting in morning and evening hours was found suitable.

Drying is done to remove excess moisture from the outer skin and neck of the bulb with a view to reduce storage rot, while minimising shrinkage caused by removal of moisture from the interior. Curing is an additional process helping in development of skin colour. Cutting of tops close to bulbs give way to entry of moisture and micro-organism (pathogen) and thereby more losses occurs due to decay. 2 to 2.5cm tops above the bulb should be left while cutting the tops so as to have tight neck and avoid loss in storage. Onion is stored in especially designed storage structures having

proper and adequate ventilation. Disinfection of storage premises for handling and storage of onion are also required to reduce post-harvest losses.

The program has proved useful for the participating farmers. It created a better platform for them through interactive participation and discussion. Farmers were able to learn various aspect of production technology on bulb onion. It is expected that whatever knowledge and skills that they have gained will be used and spread out to all household members. The Dzongkhag Agriculture Officer stressed that the knowledge and skills that they acquired has to be transformed into commercial production in the next season.

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