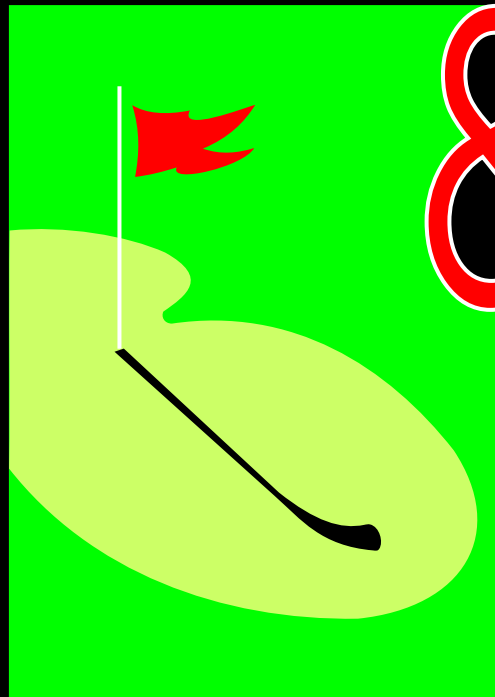


# Stick to Greens

## GCS



## &

Stick to greens

## MAI

**COMMON PLATFORM FOR  
CARING AND SHARING OF KNOWLEDGE  
AMONGST GOLF SUPERINTENDENTS AND MANAGERS**

Golf Course Superintendents And Managers Association Of India

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# FROM THE CHIEF EDITOR'S DESK



## Fellow Golfers & Friends

At the very outset with great humility I accept the Committee's decision which has bestowed upon me with the honour and has accorded me a privilege to edit "Stick to Greens", a much awaited issue which serves as a common platform for caring and sharing of knowledge amongst green keepers and managers.

I did not quite understand when I was first told through the pages of history that the game of Golf was introduced in British India, many years before it was introduced in the United states of America, paradoxically as it may appear, look at, where the standard of game of golf in the US vis-a-vis in India. Golf infact is the index of economic growth, so it was only in 1990's with the opening up of our economy, the standard of game in India and the standard of maintenance of Golf Courses began to move in the northward direction .I was singularly privileged to be a part of this period and was associated with the growth and development of the Game and Courses in some of the premier Clubs of India.

Golf is a unique game in many respects. Certainly, no other sport requires so many skills for the development, preparation and maintenance of the surface on which it is played. Consider, for example, what a golf course requires as compared with a football field, a tennis court, a baseball diamond or a bowling green. There is no sport, moreover, in which effective maintenance matters more than it does in golf. The accomplished architect takes the terrain God has provided and fashions it into eighteen challenging holes. The player takes the body and mind God has provided and makes them work together to fashion a golf swing. In the final analysis, however, all that God and the architect and God and the player are able to do matters very little if the golf course is not properly maintained. Conversely, proper maintenance can realize for the architect the fulfillment of a vision and for the player the reward for a skill. This issue therefore is an attempt to raise the existing standards of maintenance with the men & machinery available today to the golf superintendents.

We also like to inform our readers that a new committee has been formed under the stewardship of Col SK Bhattacharya, President. Col Ravi Rana and Capt M L Das have been elected as Vice Presidents while Wg Cdr AK Singh has been elected as Secretary General. Their shared pool of wisdom profound and vast experience in this field shall continue to guide the destiny of GCS& MAI and take it to the next level.

Wishing you all Happy Golfing always

Col SK Sharma  
Editor



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# FROM THE PRESIDENT'S DESK

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Dear Friends,

I take the honour to address readers of this News Letter consequent to being elected as the President of your esteem organization.

Being one of the founder member of GCS&MAI it is with utmost humility I convey my pledge to work relentlessly

for the better future of our organization.

We are preparing a road map for our journey from the point our predecessor passed the baton to the newly formed Committee. We need your advice and suggestions towards achieving our goal. May I at this moment urge you to come forward with your active participation in our endeavor to moving towards each milestone. Without your help and co-operation we are not in a position to move in the right direction.

We need to know interesting and critical issues that are being faced by all who are taking care of respective golf canvas. In a large Country of ours with divergent social, cultural and climatic conditions we may not be able to apply uniform suggestion to your problems. We therefore need specific case history to evaluate scientific reasons by our expert panel and offer remedial measures for each case should you so desire.

Most of my friends from the Armed Forces are privileged to have played and administered this game and have rich experience of looking after golf courses. Army alone has over 150 Golf Courses which need to be upgraded as they are located in important places. The reservoirs of Golf talent with GCS & MAI (Golf Course Superintendents and Managers Association of India) is sufficient to fill the existing voids and to bring in a Golf Revolution in the Country, by promoting the game of Golf, making new golf courses integral to the town planning and not the least to promote the Golf Tourism

It is with this in view that the Asian Golf Industry show has been planned from 25 - 27 June, 2010 at the familiar venue of Hotel Ashok in New Delhi. The trade show shall showcase state of the art equipment and turf care machinery by the world leaders in the golf industry. GCS&MAI is also planning a Seminar where in many Indians besides golf experts from other countries shall enlighten the participants on Golfing matters.

Very soon you will be able to access your website where, in-addition to static home page we shall be progressively maintaining dynamic chapters, there-by updating all readers with present and future information. We shall also include vital information as we receive from similar organization functioning in other parts of the world.

I must make a mention here that, GCS&MAI is now a close associate of IGU (Indian Golf Union), the Apex Body of Golf in India. We have no doubt that this association shall benefit both.

We shall be a major player in the forthcoming Asia Golf Show in June 2010, where we plan to invite selective speakers from within country to bring forth issues which are generic as well as peculiar to respective region. The seminar shall be a learning as well as interactive session.

I take this opportunity to request all of you to send your write up for our evaluation and including your name as one of the speakers in the Asia Golf Industries Show being held in Delhi during June 2010. We shall extend all logistic support for your visit as a speaker in the Asia Golf Show.

So much for now. Wishing you HAPPY GOLFING.



Col (Retd) S K Bhattacharya  
President



# FROM THE SECRETARY GENERAL'S DESK



Fellow golfers and friends,

It is my proud privilege to inform you that the elections to the Committee of GCS&MAI were held in January 2010 at the Army Golf Course, Dhula Kuan, New Delhi. This was done after the due

process was initiated by Mr Anit Mehrotra, the designated Election Officer. The bonhomie among members was apparent during the elections as all the new members were elected unanimously. The new Team is headed by none other than Col SK Bhattacharya as the President. As you all know that he is very experienced and a well known golf architect who is credited with having raised the benchmark for Indian Golf Courses through his work at Classic Golf Resort and subsequently by constructing Jay Pee Greens Golf Course. The team also has industry veterans in Col Ravi Rana and Capt ML Das as Vice Presidents and yours truly, Wg Cdr A K Singh as Secretary General. The committee has better regional balance with Capt ML Das being elected from the South Zone. It was also proposed by the incoming President to honour the founder President Col KD Bagga as President Emeritus for his invaluable contribution to the Association. The resolution was passed unanimously.

I must bring to the notice of the readers and all those associated with the golf courses management, some of the objectives that we have set forth for our Golf Course Superintendents & Managers Association of India. Our main objectives of the Association are given as under :

A s s i s t   a l l   g o l f   c o u r s e s  
developers/owners/entrepreneurs/organizations running golf courses to provide them useful and professional advise to overcome their problems/difficulties in improving the standard of golf courses in the country.

To provide technical support in upgrading or refurbishing of the golf courses and also in the development of world class golf courses for the betterment of the golf development in India.

To seek to improve the knowledge and techniques of Golf Course Superintendents & Managers and for this purpose to arrange meetings seminars of Turf and Turf related conferences and to promote closer relationship between state Associations.

Assist organizations in holding golf shows/exhibitions as and when planned.

To assist and support educational institutions in India to enable them to provide a higher standard of education in golf course and turf management.

To promote and expand public awareness of the Association and it's objectives.

To publish and/or promote newsletters or journal dealing with matters of interest pertaining to the Association and it's objective.

Assist development of suitable turf grass nurseries of homogenous species for creating healthy, true and faster putting surface. Also to assist in combating aggression of disease, pest pathogen and vagaries of weather including micro climatic changes.

To assist in procurement of suitable turf machinery amongst the best available in the world and within the country.

To maintain a nucleus of Golf Architects, Greens Superintendents, turf machinery technicians, irrigation experts, Agronomist whose knowledge and expertise can be utilized by the demanding golf courses.

To maintain a constant liaison with Australian Golf Course Superintendents Association, The Golf Course Superintendents Association of America and such other organization all over the world to obtain latest information and upgrade our knowledge base continually.

It will remain our endeavour therefore to work for and achieve the improvement of the golf courses in the country.

The committee is keen to utilise the vast knowledge pool available amongst its members and would like to share it with the widest audience possible within the country and more importantly in and around South Asia. We have great respect for Superintendents and their Associations from Foreign Countries and feel that we have a lot to learn from them. However, at this stage of our development, there is a need to focus on our in house strengths and add value to the Profession of Green Keepers and Managers.

the knowledge acquired by its members through their experience and education. We plan to hold workshops on a regional basis and are working in close co-operation with IGU towards this end.

We are in negotiation with Asian Golf Owners Association for being a partner in the Asia Golf Show scheduled at Delhi during 25-27, June 2010. We obviously would like the show to be a grand success. We will keep you informed about the developments.

We are also hoping to include Training, Certification and Placement in our programmes this year.

Members involvement is being sought to be increased through various Sub-Committees to take advantage of individual strengths. We are sure that these Sub-Committees would provide necessary knowledge and wisdom to provide directions for further growth and development of our Association

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Col (Retd) S K Bhattacharya

**Vice Presidents**

Col (Retd) Ravi Rana  
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Mr Lokinder Malik

We look forward to your continued support in this regard. Assuring you always our best in helping you to enjoy this wonderful game of golf and maintaining golf courses, particularly those located in South Asia for we have the rich hands on experience and the reservoir of the talent to meet the challenge

Thanking you and wishing you all Happy Golfing as always.

Yours truly.



Wg Cdr (Retd) Arun K Singh  
Secretary General

**Membership Fee for GCS&MAI :**

**a) Life/Individual Member**

Registration Fee (LM) : Rs 5,000/-  
Registration Fee (IM) : Rs 2,000/-  
Yearly Subscription : Rs 300/-

**b) Corporate Member (Golf Clubs)**

Registration Fee (Civil Golf Course) : Rs 10,000/-  
Registration Fee (Services Golf Club) : Rs 5,000/-  
Yearly Subscription : Rs 500/-

**c) Associate Member (Business House)**

Registration Fee (International) : \$ 700  
Yearly Subscription : \$ 250  
Registration Fee (Indian) : Rs 30,000/-  
Yearly Subscription : Rs 5000/-

**d) Overseas/MNC Members :**

Registration Fee : \$ 250  
Yearly Subscription : \$ 150  
Registration Fee (Golf Clubs) : \$ 500  
Yearly Subscription : \$ 300



# BUNKERED



**H**ello friends, it's been long that I wrote any of my thoughts on golf, except lurching to catch up with lost time with own assignments and commitments that had slipped past share with you. Something that has always bothered me is the decision on bunkering. Only a decade or two ago, bunkers were thought of as hazards to be avoided because of the difficulty of playing out of them, owing to the capricious nature of their playing conditions. However, bunkers today are highly maintained and precisely constructed at a unit cost that often exceeds those of modern golf greens.

Bunker style and playability issues are the deciding factors yet it is a difficult call, how steep should you build bunkers? At Goa, typical dune sand will maintain a natural slope angle of around 35 degrees if left to blow in its natural state. Some soils will pack tighter than that and maintain their face, particularly if they are in a dryer climate' Delhi or Ahmadabad, that isn't as affected by water and wind erosion. Under those conditions you can maintain steeper faces for great dramatic effect and as a hazard

Bunker bottoms can be flat or shallow, shallowly dishd to steeply faced, this another choice that finds me at bay with whatever I have done. I know that style depends on the desired affect by the architect in regards to difficulty and aesthetic effect but how to decide it to please the client and the players? I have tried these at Gulmohar Greens Ahmadabad to some dramatic effect but the grassing of lips remains a big problem.



Pot bunkers typically have grass faces, whether that's a maintained grass face or a sod tiled wall and they tend to have flat or very shallow sand at the bottom of a steep face. These are deadly traps, I remember David Doval meeting such tragic landing and took 4 strokes to come out to lose a sure win when playing the penultimate hole at British open. More extreme bunkers are deeper or have a more steeply scalloped profile, making recovery more difficult due to the reduced back swing or potential to have a downhill lie in the bunker.

In the sand profile in the bottom of the bunker, it is very important to prevent situations where the ball consistently rolls into the bunker edge. Use of a slight counter-slope near



the flatter edges of the bunker will help thwart balls from resting against the bunker lip.

Basically, bunkers can effectively serve any of the five general purposes:

- \* Penal – define shot values
- \* Retaining – keep errant golf balls in play
- \* Safety – separate congested play areas
- \* Directional – identify direction of play
- \* Aesthetic – improved visual impact



Bunkers are expensive to build and maintain and therefore each bunker should be evaluated for its reason for being there, then examined as to whether it is effectively serving that purpose. In cases of renovation whether it should be modified, removed, or replaced. To simply keep bunkers because 'they have always been there' is not cost effective nor does it address current and future evolution of the game.

Each of the styles issue directly influences play from it and bunker maintenance in some fashion, and so aesthetics, playability, and maintenance must be balanced. For example, a relatively flat, round bunker is easy to play from and to access with a ride-on bunker rake to keep the sand neat. Similarly, the edges of this round flat bunker can be mowed with ordinary ride-on mowers, virtually eliminating any hand labour on this bunker, and therefore it is inexpensive to maintain. But this bunker is not visually stimulating enough to evoke 'awe; or 'memorability' in a golfer. On the other hand, a highly articulated bunker that does elicit 'wow' in golfers will most likely have to be hand raked, the surrounds may require hand mowing, has faces subject to erosion, may not be easy for golfers to get in and out of , and there may be lots of hand trimming or edging on this bunker.

This 'fancy' bunker may cost many times more to maintain on a square metre basis than its simpler and less visually striking counterpart. But, golfers will not remember the featureless bunker as long as they will one with more style. In general, the guiding philosophy should be :

- \* If a bunker serves no purpose, do not go for it or eliminate it in renovation.
- \* If a bunker placement causes unfair double jeopardy such as a tree immediately in front of a bunker, take decision to either review location of the bunker or the tree must go.
- \* I have observed that contrary to design of bunkers in overseas golf courses Indian prefer small panel bunker over larger, easy to play from bunkers; especially on the left side of a play line.
- \* Excellent bunker play requires skill not strength, so skill level will be rewarded.
- \* Playing from the proper set of tees commensurate with skill level will be emphasized in setting fairway bunkers.

\* Dr. Alister Mackenzie espoused placing bunkers where golfers want to hit their ball, and I am an ardent student of his philosophies and agree with him. This means a properly placed fairway bunker forces the golfer to choose between flying over it, landing short of it, or playing to the side of it. Such bunkers are not passive and are always in play to force these options.

\* From the back tees fairway bunkers should start about 240 meters (260) yards out and end about 265 meters (290 yards) out.

\* Besides the bunker itself, the surrounds of each bunker should be evaluated for its quality of turf and player recover ability. On those bunkers the advisory committee deems have too many types of grasses to play consistently, new sod should be planted as appropriate.

\* In general, difficult or highly penal bunkers should be placed on the left side of a play and easier bunkers on the right side so as to cater for the typical right hander's slice.

\* Bunkers work best that can be easily seen.

Besides these philosophical issues about bunker design and placement, there are functional issues with regards to construction and maintenance. These include additional drainage, the addition of erosion resisting bunker mat, and sand selection. The greens committee should decide if they want very white sand, or one with a bit more an earthy tone.

Having done one there is confusion that why not the other style. Soil condition, weather & climatic effects, the irrigation system, maintenance skills, available budgets and the demand of eye appeal by the client are factors to be considered. Please ponder on these points when deciding style of bunkers that can be done. They are fascinating seductresses to disturb players, superintendents and the designers.



Col (Retd) K D Bagga

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# UNDERSTANDING ALGAE



As how Algae growth, outbreaks can be particularly severe in tropical environments due to high humidity and temperatures. An outbreak of algae slime in turf shows within or over the turf, or as a crust-like “skin” over a bare surface.

Effects of Algae on Turf Grass Algae slime in turf affects the surface in many ways;

The slime nature of algae can create soft and slippery condition.



- \* It can seal the soil surface, cutting off aeration to the root zone and damaging turf.
- \* Drainage can be impeded as the algae seals the surface
- \* Some forms of algae are associated with the developments of “black layer” in sand greens
- \* An algae crust on the surface can impede the establishment of the plant seeding or prevent the spread of grasses back into affected areas.

What is an algae? An algae is microscopic organism that, like plants, obtains their energy from photosynthesis. Although there are many different species of algae, they can be divided in two broad species categories viz GREENALAGE & BLUE ALGAE.

Coping with Algae understanding the condition that lead to algae proliferation is the starting point to find a cure. Like plants algae need basic ingredients of light, moisture and nutrients. Take away any one of these and growth will be curtailed. Algae require high surface moisture or humidity to maintain their activity. Algae problems most commonly arise under condition of high rainfall, frequent irrigation, poor problems, or a combination of the above.

The course managers are often caught in two minds; knowing that the turf needs fertilizing for growth, but aware that any, strategies that apply nutrient application will enhance the algae problem. In this situation below the surface and into the root zone are recommended. Other factor that have bearing on algae activities are soil compaction, soil ph, shade, and the type and amount of physical treatment.

Last, but not least, it should be recognized that temperature has a bearing on algae activity. Like most micro-organisms, an algae grows much more rapidly under warmer temperature, hence the reason why it is a big problem in the

tropics. Long -term control can only be achieved by providing an environment, which keeps the balance in favour of the grass and away from the algae.

Maintaining a dense, healthy turf cover will limit the amount of light reaching the soil surface, which could otherwise stimulate algae growth. The course manager will need to balance an array of factors to avoid over-exposing the soil surface, including adoption of a sensible mowing height and mowing frequency and adjusting detaching and topdressing frequency to match plant growth.

Reducing shade on the turf such as by tree pruning and encouraging air circulation or other cultural practices that help dry the surface and promote a healthier turf cover will assist in algae control. Chemical control for algae is available. Chemicals only control the algae that is present and do not address the reasons for the algae invasion

In the event of outbreak, the first control measure should be to kill off and dehydrate the algae slime, then break up and remove the excess algae by method such brushing, raking, verti-cutting, or spiking.

The range of chemicals used for algae control includes various contact fungicides, quaternary ammonium chlorides, some copper- based products, Iron sulphate and hydrated lime not more than 05 gms per metre sq. Remember that hydrated lime must be watered thoroughly off the leaf and into the soil immediately after application. To be effective, control needs to be initiated at an early stage of the algae development. If left until a dense mat has developed, repeated doses of the same to be followed.

I must end by saying that, Understanding the prerequisites for algae growth will enable the Course Managers to better understand the problem and devise strategies to minimize the risk of invasion

Col (Retd) Ravi Rana

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# OPTICAL ILLUSION



After HP Asia Pacific Junior Golf Championship Tournament, one may get little respite, if another important event is not looming large on your shoulders.

Well it is not that the course is always in mint conditions. Nevertheless one needs to prepare for such important event.

Many a things have got its own contribution to let you down especially when you are running against time with fixed time schedule. In that nature plays its own role. You may be praying all the time for rain, but rain will be there when you don't want, to spoil your well shaped bunkers and other preparations/markings. And so goes with the debris from existing trees that get blown in from out side. Well you may be able to control the situation with your well trained and disciplined task force.

The rain might have contributed even adversely on your long and well planned manicuring of your course. One might have removed plenty of weeds from the course manually, mechanically and with chemicals no doubt, in any golf course weeds are perennial headache for the maintenance staff.

We may have many ways to control weeds. The market may be flooded with selective herbicides, but other than a few known selective herbicides, rest all are based on trial and select basis. There are not much established manufacturers, on whom one can depend upon without having tried earlier. Then again depending on soil condition, pH of viz soil fairway, green and so forth, one need to change the chemical percentage and self developed combination of chemicals (weedicide) without affecting the main grass coverage. Whenever way you might have done, you can not eradicate weeds altogether. Somewhere seeds, root or bulb get left out, for weeds to sprout under favourable condition.

Weeds removal is a continuous process in any golf course. The percentage of weed in any course depends on ingenuity and efforts of the maintenance staff and committees seriousness to release funds to fight weeds. It is seen that there are so many self appointed experts are there in committee and playing members(influential) may not otherwise be in the society, in committee, will advise how to control weeds. If it happens to follow their formulae and heaven forbid, you create nuisance, then you have to harvest your own crop. What I am trying to bring to your notice that when any major tournament is not far off and you can not do much to remove weeds, what one has to do.

It is better in my opinion to go for Optical Illusion. How to achieve optical illusion in short notice, first of all, one need to understand what is optical illusion. It is very simple. In that what you see may not be the real ground condition.

One might have applied enough of fertilizer (urea especially) to bring colour to fairways and roughs in different ratios to get

distinctly different shades of green for fairways and roughs. The untimely or unexpected rain may have saved you from irrigation on urea application, but what about weeds also grown with grass due to urea application.

Certain weeds, when one cuts it, grow as if over night, if not killed from the root. Weeds like bulb grass or crow foot, the stock (stem) can not be cut with reel mower on fairways but only with rotary mower. If weedicide (Sencor) is used, the area looks either copper colour initially or brown later, is eye sore in greenness especially when time is very short. It is suggested to remove the stems with brush cutter or any other method from the fairway, rest leaves can be taken care of by reel mower. Of course roughs will be under care of rough mower. If possible, landing areas may be given special attention. All golf balls do not always land on weeds, so complaints from a few. More so if ground is playable they may not be much observant on fairways. The golfers especially observe surround area while standing on tees or greens.

Another area which can be easily taken care of is cleanness of course. It gives much better impression of the course. Keeping the landscape area properly manicured with all hazard, DZ, OB and GUR neatly marked, especially over hanging tree branches need to be pruned to desired height. When a golfer stands on the tee, he scans the fairway for selection of his desired landing area. He/she does not look for weeds but clearance for his/her shots. There are so many other things one need to take care as per ground condition and prevailing situation. I am bringing these points as I have faced in recent time. Due to almost daily rain and scorching heat, the climate was very humid. Field staffs were falling sick one after another. Still the golf course needs to ready for the tournament.

I am trying to share my experience with you. Different managers/golf superintendents have got different approach with prevailing ground condition and situation like weather condition, availability of man power in short notice, equipment availability et al.



Capt (Retd) M L Das

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# GOLF AND ARMED FORCES INSEPARABLE PARTNERS



Since the oldest Golf Course outside Scotland came into being in 1829 at Calcutta now KOLKATA, Armed Forces in India has contributed maximum number of Golf Courses in the country.

Well! That may give us a pat on the back but it is pitiable that none of the Golf courses are close to any world-class facilities as far as the playing canvas is concerned.

I do not intend to analyze and crucify the reasons for such a situation. My intension is to share with the readers how we can get out of this accusation.

Quite often we are told by authorities running Golf facilities that "It is the financial crunch which has lead to this sad state of Golf courses.

Being a person involved in all types of Golf course development including setting up world class Golf courses let me highlight certain realities of upgrading and refurbishing existing Golf courses under Armed Forces Control.

Let us understand simple arithmetic's of the game of Golf. 50% of strokes in a round is taken on the putting Greens, 25% of the shots are played from Tees. We are left with 25% of the game, which is supposed to be played from Landing Area or Turning points. This percentage though applies to the skilled player, but fact remains that we must put in our efforts matching with this percentage.

Let us go little more into details.

## 50% on Greens:-

Every player without exception desires and enjoys: -

- A Green with homogenous Turf Grass
- A smooth roll of the ball when going towards the cup
- Trueness of the green if read well
- Fast and uniform speed on all the 18 Greens

## 25% on the Tees:-

Expectation:-

- Well grown and groomed Turf on Tees
- Tees must have flat elevation like a Table Top
- No dug up or puc mark where Tee marker has been placed to designate Teeing area.
- 1% transition of slope from Front to the Rear of the Tee
- Tees can be easily pegged on the surface

## 25% at the Landing Areas or Turning Point.

Golfers Expectation: -

- Ball must be visible and sitting on well-groomed turf.
- Undulation should not be either abrupt depression or sudden rise
- Next Landing Area (Fairway or Green) must be visible
- Skillfully executed shot may not be penalized due to faulty location of bunker, water body, shrubs or a Tree with well spread canopy.

With the above analysis we can see that our Golf course of hundreds of Acres need not be considered for avoidable investment. Only the areas of Tees, Landing Areas and Greens need to be attended with available and limited financial resources as well as in terms of men and equipment/machinery accordingly. If funds are available we can improve rest of the areas.

## Amateurish Approach:

It is a pity when we find total amateurish approach of tasking persons with scanty or no knowledge of Golf Architecture and expertise of Vegetative life like Turf grass and plants for improving existing golf courses. At the end of the day we are back to square one, if not Frying pan to Fire.

We need to approach Golf course construction experts to prepare a holistic plan and suggest tackling specific areas or features in phases depending on available resources. We call it Tailor made.

A professional advice with affordable fees is definitely worth the effort/investment. Such advice and step-by-step improvement shall withstand the Test of time and will be sustainable.

Next issue that is advisable is to identify and nominate high traffic courses and adopt them at the highest formation level.

Resources like Engineering equipments can be utilized for training of operators and testing heavy machinery. I am in no way suggesting to use heavy equipments for Golf course construction, What I am suggesting is to use Golf courses as a training ground and for "On Job training of Technicians, Operators and Artisans. Such training grounds are not easily available due to urbanization of cantonments, hence this option.

Map Section Survey teams, quantity surveyors can be tasked to carry out their training on specific areas of Golf courses.

Let us not try to emulate or copy world-class facilities while planning to upgrade/refurbish existing Armed Forces controlled Golf Courses. Reasons are simple; we are not into a commercial venture. Expenditure in building such courses is mind-boggling. "We must bite what we can chew".

Col. (Retd.) S.K. Bhattacharya

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