The year 2014 is sure to go down in cricket history as the most prolific in terms of the number of bowlers being monitored and sanctioned between the months of July and October alone, no less than five international cricketers – Sachithra Senanayake (Sri Lanka), Kane Williamson (New Zealand), Saeed Ajmal (Pakistan), Kagiso Rabada (Zimbabwe) and Sohail Khan (Bangladesh) – were reported and cleared back in 2015, major efforts being taken to ensure that bowlers bowl within the legal limits. Such an outcome has resulted in India’s ICC-acknowledged testing centre for suspect actions at Sri Ramachandra University in Chennai which is all set to boost cricketing standards through scientific research on the biomechanics of the modern Ramachandra Arthroscopy and Sports Science Centre (SRASSC) is the second such centre in the world to get an approval from ICC for testing bowlers following the centre in South Africa and England.

Equipped with modern facilities and the latest instruments, it is the first of its kind in India and its mission is to enhance the performance fitness of our country and internationally with less injury. This holistic approach will definitely as cricket is becoming more athletic now.

Thiagarajan also elaborated on the various facilities at SRASSC, highlighting that he has come under the ICC scan recently in Dubai for talks with Board officials, talked to Gulf News on the novel research that is being conducted at the centre apart from testing bowlers with suspect action with the most modern equipment.

**Science of sport**

“The idea of sports as a science is around the world and watched by many nations, our centre in India, also specialised and wanted to establish something similar in India,” Thiagarajan said.

“Our chancellor V. R. Venkataraman and S. Arumugam who is the Head of the Department and is an Orthopedic Surgeon, around the world and watched how modern machinery has come out and wanted to establish something similar in India,” Thiagarajan said.

“Before we did the first experiment, we did a lot of research, almost 50 bowlers’ careers have beenboosted in our centre. It is now called clusters in the world. The testing centre in Dubai has since been cleared.”

**Technological marvel**

**From left: Dr. S. Arumugham, M. S. Dhoni, Dr Alawar Thiagarajan and Sandile Sibeko at the Sri Ramachandra Arthroscopy and Sports Science Centre.**

Thiagarajan also elaborated on the various methods and technology that will assist cricketers to excel.

**Physiological evaluation**

Physiologists have an important role in cricket as it is becoming more athletic now. The physiological profile, to a great extent, will determine the bowler’s height and lung capacity, the muscles, the power and flexibility with which a cricketer has to ideally maintain himself. He has to be light and fast. So we have done over 5000 cricketers and then compared with international cricketers. We have done almost 7000 tests and have compared the results with that. indian bowlers and in 2013-14 season it was 2500 bowlers.

**Injury prevention**

“When we talk of injury, we usually mean a fracture, bowel injury. But, if we talk of injury, we should be talking of action and a lot of research has been done around the world on physiological basis and in our centre also we have done two studies on this. We have looked at the situation of an athlete and we have compared with players who have had injuries. And we also compared with players who have not had injuries. What we found was that there was a significant difference. What we found was that there was over 50 per cent reduction in the group which had no injury.”

**Research on batting**

“The ICC Natural Science Committee is mainly focused on the legal action of bowling and the action of batting. We have done a lot of research on this. We have done a lot of research on this. We have done a lot of research on this.”

**Centre of excellence**

“Comprehensive testing of a cricketer’s strength, flexibility and agility, and we ask them to do some exercise and see his response like heart rate etc. We find that he is not up to mark. If we help him get job-acclimatised we have an athlete chamber also where we can simulate a low oxygen condition which is what you get when you are at a high altitude centre like Dharmasala or Johannesburg. Not only that, we can improve their performance by putting them in such challenging environment. For a batsman to come out of injury, strength conditioning is important and the ICC is focusing on this.”

**Expertise of PQI and Gary Kirsten**

“Gary Kirsten is in touch with us. He has a lot of experience. He has knowledge of how to read a report. He has given us quite a lot of feedback.”

**Conclusion**

“Shaping a cricketer to perform any weather is vital. A cricketer is born in India, is brought up in a rural set-up or the UK or US or as a sports scientist or as a strength conditioning expert I would be planning this trip. These are new environment chamber where the temperature, humidity and wind speed can be controlled using infra-red technology along with two high-speed video cameras. This action is captured through reflective markers on the body and a picture of the bowler with all the angles and lines and essentially the skeletal structure is reconstructed in a stick figure.”

“If we are leaders in image motion capture technology, having got this software, incidentally, the ICC has also been interested in how the testing is done and it was shot at our centre.”

**Error reduced**

Thiagarajan also revealed how modern machines have reduced the number of errors.

“It is now called clusters instead of the process of detecting the markers directly,” he said. “We have plastic sheets now and we stick many more stickers on that, so that the accuracy is better. The error due to skin movement has been reduced and hence it is much more reliable and accurate. The ICC has appreciated our ideas and is trying to develop their own testing for bowlers’ action so that umpires can hereafter confidently deal with bowlers’ actions.”

**Preparations as a testing centre**

“Before we did the first experiment, we did a lot of research, almost 50 bowlers’ careers can be prolonged and performance enhancement done. For example, if somebody wants his bowling speed to improve, we can analyse the action and provide the scientific inputs to the coach as to which movement pattern will be ideal,” he said.

“Our four research papers have been accepted. We are going to present papers on the biomechanics of the bowlers’ running on cricketers and we are going to present our paper also in the international conference this year. Three of us will be from our university. We are the only centre which has the markers directly,” he said.

**Photo evidence**

An unique testing centre for suspect bowling action.

**DUBAI**

By K. N. NAVAR

Chief Cricket Writer

We have perfected the process and our first report was on Bangladesh bowler Aminul Haque whose bowling action has since been cleared. Bowlers like Bhuvi’s bowling actions, SRASSC also doubles up as a cricketing centre of excellence.

We all know cricket is a game of skill and like football, which involves skill and scientific training. We want cricket to be too. Bio- mechanics is important in many playing branches, but it can prevent injuries by assessing a bowler’s action.

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**Photo evidence**

Cameras at the Sri Ramachandra Arthroscopy and Sports Science Centre for testing of bowlers with suspect actions.

**CIBERNAL-BASED SRASSC TO BOOST CRICKET STANDARDS THROUGH SCIENTIFIC RESEARCH ON THE GAME**

When we talk about cricket science, it is important to know that Sri Lanka has gone a long way in taking the game to the next level. The country has been known as a sport nation has gained huge importance in the country. The Board of Control for Cricket in India’s (BCCI) national cricket academy (NCA) rehabilitation centre also has been relocated recently in Bangalore.

Over the years, the science of sport has gained per- imousness and is now covering in- national attention. Dr. Alawar Thiagarajan, the Chief Operat- ing Officer at SRASSC, is an expert in different science services, who was recently in Dubai for talks with the ICC and Emirates Cricket Board officials, talked to Gulf News on the novel research that is being conducted at the centre apart from testing bowlers with suspect action with the most modern equipment.

**Techinical marvel**

In the cricket world, Thiagarajan said: “The ICC has given all the directives and protocol as to when a player should be tested and with what equipment. We have all the best for equipment for it. Previously we used to test with infra-red cameras and have almost of 20 them when actually only 10 to 12 are need- ed.”

“The bowler will be monitored by 10 to 12 D cameras and sometimes even 16 cameras. Bowlers and sometimes even 16 bowlers from around the world are now being flown into SRASSC. Elaborating on the centre’s work, Thiagarajan said: “The ICC has given all the directives and protocol as to when a player should be tested and with what equipment. We have all the best for equipment for it. Previously we used to test with infra-red cameras and have almost of 20 them when actually only 10 to 12 are needed.”

“We have a single-minded goal to improve sports through study of physiological and physical skill of players. Three of us will be from our university. We are the only centre which has the markers directly,” he said.

**Goal:**

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