



Government of Bengal

Suggestions for the
Improvement of Physical Education
in Schools

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Superintendent, Government Printing
Bengal Government Press, Alipore, Bengal
1940

**Published by the Superintendent, Government Printing
Bengal Government Press, Alipore, Bengal**

Agents in India.

Messrs. S. K. Lahiri & Co., Ltd., Printers and Booksellers, College Street, Calcutta

Messrs. Thacker, Spink & Co., Calcutta.

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FOREWORD TO THE SECOND EDITION.

Physical Education in Bengal is a rapidly developing subject and any publication concerning it must necessarily be regarded as designed to meet temporary requirements.

Since this booklet was first issued in 1936, the following important developments have taken place:—

- (a) A Youth Welfare scheme has been sanctioned by Government, under which District Welfare Councils have been established to co-ordinate the work of all official and voluntary agencies that are interested in the welfare of young people.
- (b) An important part of this scheme is the appointment by Government of a District Organiser of Physical Education in each district, to give direct assistance to Secondary and Primary Schools, as well as to act as Secretary to the Youth Welfare Council. In the circumstances, progress which could not be anticipated in 1936 can now be planned.
- (c) Although tiffin and medical inspection fees are not yet compulsory, experience has shown that very large number of schools can, and ought to, introduce these at an early date. The allotment of annas 2 per month per student from the sports fee, if supplemented by a special fee of annas 2 per month, is permitted for the introduction of a tiffin scheme.
- (d) Government have allotted sufficient funds to assist a number of selected High Schools and Senior Madrasahs each year with tiffin supply and medical inspection. The object of this provision is to demonstrate the value of these schemes. The same schools will not benefit perpetually from such grants; instead, changes will be made after reasonable periods, in order to give all deserving schools in turn the opportunity to benefit.
- (e) The teaching of Hygiene has been put on a new basis by the Regulations of Calcutta University. This essential part of Physical Education must, therefore, receive close attention.
- (f) It is hoped in the near future to develop a widespread scheme for the medical inspection of students in all High Schools and Senior Madrasahs, and for more careful organisation and supervision of the teaching of Hygiene in Secondary and Primary Schools.
- (g) A considerable number of High Schools have appointed trained graduate Physical Instructors, and many more, although not in a position to do so, have complied fully with the requirements laid down by the department in 1928. (See Appendices G and H.) Government have now under consideration certain proposals concerning the reduction of grants in the case of schools which neglect physical education.

The aim of these developments in school physical education and of those parts of the Youth Welfare Scheme that concern young men, is

to provide a definite influence to guide the growth and development of young people from the earliest age until full maturity, along lines that will ensure health and vigour.

It is now widely recognised that the school that neglects physical education under the mistaken impression that it interferes with academic progress, is backward in its methods, and is likely to produce young men whose debilitated state of health renders their academic attainments useless.

The Education Department consider it essential that all schools should give full attention to the physical needs of students, and this publication outlines what are considered to be the best methods of doing so.

Suggestions for the Improvement of Physical Education in Schools.

(By J. Buchanan, M.A., Physical Director, Bengal.)

General consideration.

The Syllabus of Physical Training for Secondary Schools, issued in Government notification No. 471 T.—Edn., dated 15th May 1933, contains provisions of an entirely different nature from those of the previous syllabus, and it is therefore desirable that instructions should be issued which will help Headmasters and teachers to understand its aims and to introduce all sections of the syllabus that are possible under local conditions. The suggestions now made should be carefully read by all concerned with the physical education of boys, in order that comprehensive schemes on the lines indicated may be introduced at the earliest possible date.

Aims of physical education.

In order to appreciate the general objects of the syllabus the teacher must first recognise why physical education is considered to be an essential part of the school curriculum. To a very large extent the demands of school life, and of the home study necessarily associated with it, limit the opportunities of the child to gain physical experience. If free from restriction, he would take part in free play of an active nature and thereby provide unconsciously for the proper development of his bodily functions. In school, however, circumstances compel him to remain physically idle, often in a faulty postural position, for the greater part of the day. The first aim of physical education is, therefore, to counteract the harmful effects of school upon the child by introducing activities which will guide his physical development.

The second aim is to cultivate mental ability, and this is partly ensured by the mere exercise of the body, for physical health reacts upon the mechanical efficiency of the brain. Partly, also, the influence of the teacher can do much to develop good mental habits, for ready response by pupils requires alertness, attention, and concentration upon what is being taught.

There is, further, an educational or moral aim in physical education. When we refer to the characteristics of the sportsman, we visualise qualities such as a sense of a fair play, unselfishness, co-operation, courage, etc. The cultivation of these as habits of action on the sports field or in the gymnasium is an important part of the teacher's work, and, no matter how far the boy may fall short of the ideal, it must still be kept before him as something which, if absent, renders all physical skill and mental power valueless.

Scope of physical education.

In its widest sense the term physical education includes—

- (a) the teaching of physiology, hygiene, and related subjects, in order that pupils may recognise the importance of the laws of health;
- (b) the practice of activities such as bathing, tooth-cleaning, and other means of forming good physical habits; and
- (c) the regular practice of physical exercise.

We are concerned here with the question of what forms of physical exercise are to be introduced in schools, and how they are to be organised and taught. A convenient and comprehensive term for this section of school work is "Physical Training," which is preferable to the term "Drill". The latter is too narrow in its meaning to indicate the varied activities which are useful and suitable in schools.

Place of physical training in the curriculum.

The only school subjects other than Physical Training which concern themselves with muscular education are Drawing and Handwork. But the aim of these is to teach control of the finer muscle groups, and to co-ordinate their action with vision and with the mental processes of judging form, size, proportion and distance.

Physical Training is the only school subject whose teaching can assist the development of the fundamental neuro-muscular co-ordinations in the large muscle groups, and affect the working of all parts of the body machine. Its function is to activate the heart, lungs, and viscera as well as the muscles, in a controlled way, so that certain ailments may be prevented. No other school subject can do so.

The demands of the academic curriculum are heavy, but, in the last resort, all school studies must give way to the demands of the body, as in the case of illness. To a lesser extent in the case of the average boy, the amount of study is determined by bodily requirements, and time *must* therefore be found for physical training.

The minimum requirement is four periods weekly of organised physical activity for *every class*. Whether these are conducted during or after school hours, either wholly or in part, is left to the discretion of the school authorities. Climatic conditions during each season, the school time-table, and space available, are some of the determining factors.

It must be specially noted that this regulation applies to Classes X and IX, as well as to others. There is no excuse for cancelling physical training for senior classes. On the contrary, the physical needs of these classes require special attention during the period when over-study endangers the health and retards the physical development of the students.

The beneficial effects of this provision may not be measurable because routine examinations in physical training are both difficult to arrange and undesirable. But, in a general way, the effect of well-taught activities upon the vigour, alertness, and general well-being of pupils can be readily recognised.

They can be altered to suit climatic variations and other environmental limitations. They therefore provide the foundation of all programmes of physical training.

In the past, free-hand exercises have been known as "Drill," and have been limited to a few stereotyped movements, repeated month after month in response to conventional explanations and commands in English, until the pupils become thoroughly bored. No improvement can be expected until teachers realise that—

- (a) Each lesson must contain a variety of interesting and lively exercises, carefully planned beforehand by the teacher.
- (b) Each lesson should be taught for not more than one month, in order to retain the interest of boys and to ensure progression in difficulty.
- (c) The use of English removes the naturalness and liveliness from most lessons. Bengali must be used for all explanations and commands, because it produces quicker understanding, better response, and a natural atmosphere which creates interest. This has been proved at numerous training courses and in all schools where the teacher of physical training has taken up the question seriously.

(b) *Gymnastics*.—These include all forms of exercise *on* apparatus. They are interesting because they demand strength, skill, and courage, and they are useful because they encourage boys to progress in the acquirement of new forms of bodily control.

Exercise *with* apparatus such as dumb-bells, wands and Indian clubs is not recommended, as experience in a large number of countries has shown that better results can be obtained without them.

Schools are strongly advised to omit "muscle-building" exercises such as weight-lifting and muscle-controlling because of the definite harm that may be done by these to immature boys.

The best forms of gymnastics for school work are exercises on vaulting box or horse or buck, climbing ropes, parallel bars, horizontal-ladder, and horizontal bar.

(c) *Small area games* ("Minor games").—The number of games included under this head is too numerous and varied to mention. In the list of books given on pages 23 and 24 will be found a number of inexpensive publications which give clear explanations of a large number of small area games. The value of these games is that they are simple, cheap, easily taught, and quickly organised. They are free in character and objective in type, and should therefore always be associated with physical exercises in a lesson, in order to counteract the formality and stiffness which is often associated with the latter. Indigenous games should receive the attention of teachers when plans are being prepared.

(d) *Major games*.—The following games are included in this group—

Football, Cricket, Hockey, Playground Ball (Base Ball, or Rounders), Hindusthan Ball (Hyderabad Ball), Basket Ball, Net Ball, and Volley Ball.

These may be divided into two groups—

- (i) Those which require a fairly large area, such as Football, Cricket, etc.
- (ii) Those which may be played on a comparatively small area, such as Basket Ball and Volley Ball.

All major games demand a high degree of skill, knowledge of complex rules, and powers of endurance over prolonged periods. For these reasons they should be taught only to senior classes, say to boys of Classes VII to X. Further, as pupils are generally unable to concentrate upon academic studies if partially exhausted by very vigorous exercise, major games should be organised after school hours only. There are, however, many minor games of a type similar to the various major games, and these should be used freely during physical training lessons as preparatories for the more advanced major games.

(e) *Athletics*.—The most usual athletic events in schools are—

- (i) Spirit racing—75 yards to 220 yards, and hurdle racing.
- (ii) Distance racing—above 220 yards.
- (iii) Jumping—standing and running high jump, standing and running long jump, hop-step-and-jump, and pole vault.
- (iv) Throwing—Cricket Ball, Football, Shot, Discus, Sling Ball and Javelin.

Athletic activities are those which employ the fundamental physical movements of running, jumping, and throwing. Athletics may be classed as a major activity because of the high standard of physical ability demanded of the participants. In the teaching stage, where preparatory movements are practised, either through minor games or for a particular athletic event, athletics may be included as part of a physical training lesson.

Although vigorous in nature, athletics may be easily adapted to the abilities of boys, and for this reason they may be taught as part of the physical training lesson as well as after school hours.

The adaptation of athletic events must receive special attention since it is a common practice in schools to adopt without modification the events as approved for adults. The following changes are recommended:—

Adult.		Senior boys.		Intermediate boys.		Junior boys.
100 yards race	..	100 yards	..	80 yards	..	60 yards.
220 yards race	..	220 yards	..	170 yards	..	120 yards.
440 yards race	..	350 yards	..	275 yards	..	200 yards.
$\frac{1}{4}$ mile race	..	$\frac{1}{4}$ mile	..	Not recommended		Not recommended.
1 mile race	..	1 mile	..	Not recommended		Not recommended.
Shot put, 16 lb.	..	12 lb. shot	..	Not recommended		Not recommended.
Hammer throw	..	Not recommended		Not recommended		Not recommended.
120 yards hurdle race		110 yards hurdles	..	90 yards hurdles	..	70 yards hurdles.
(10 hurdles, each 3'6" high with a start of 15 yards and a space of 10 yards between hurdles).		(10 hurdles, each 3' high with a start of 14 yards a space of 9 yards between hurdles, and a finish of 15 yards).		(9 hurdles, each 2'6" high, with a start of 12 yards, a space of 8 yards between hurdles, and a finish of 14 yards).		(8 hurdles, each 2'6" high, with a start of 10 yards, a space of 7 yards between hurdles, and a finish of 11 yards.)

In schools, athletics may be utilised as one of the few methods by which the teacher may accurately measure the physical capacity and progress of his pupils.

(f) *Swimming*.—The various branches of aquatics in schools are:—

- (i) Sprint swimming—25 yards to 50 yards, using the Crawl Stroke, the Breast Stroke, or the Back Stroke.
- (ii) Distance swimming—100 yards and upwards, using Crawl, Breast, or Back Stroke.
- (iii) Life-saving—carrying a “patient” by Breast or Back Stroke.
- (iv) Low diving—diving from the surface while swimming or from heights up to three feet above the water.
- (v) High diving—diving from heights above three feet, up to ten or twenty feet.
- (vi) Fancy diving—from a spring board at three feet or ten feet above the water.
- (vii) Fancy swimming—somersaults, sculling, etc., in the water.
- (viii) Water polo.

Like athletics, swimming is individual in character and provides opportunities for the measurement of physical ability.

As a form of exercise swimming, if systematically taught, is excellent. All muscle groups of the body are employed, development is harmonious, the position of the body in the water ensures good postural habits, and the effect of water pressure is to increase the powers of the respiratory muscles. For these reasons, swimming is strongly recommended as a substitute for all other forms of exercise between 8 a.m. and 5-30 p.m. during hot weather. During the rains it provides an interesting and effective alternative when it is desired to introduce variety into the physical training programme, or as an extra-curricular activity.

When boys have attained a fair standard of proficiency in swimming, life saving and diving should be introduced. Life saving not only demands a fair amount of physical exertion, but builds up confidence and teaches a useful accomplishment. Diving is an interesting and exhilarating form of skill which teaches bodily control, self-confidence, and courage.

(g) *Folk dances*.—The dances recommended are Rai Bishe, Dhali, Kathi, Jhari, Jhumur, Baul, and Kirtan, accompanied by music and the associated songs.

There is, as yet, no book available on the subject of Bengali Folk Dances, but teachers may study them at the annual training camps of the Bengal Bratachari Society.

The dances should of course, be omitted in schools where there are objections on religious grounds.

The folk dances of Bengal provide a means of self-expression which has a fundamental appeal to boys. They develop the rhythmical and musical sense, which is often neglected; and they teach accurate and controlled muscular movements which have excellent physical effects. Every effort should, therefore, be made to include them as part of the physical training programme.

(h) *Rowing*.—This form of exercise is one that should prove popular in East Bengal. So long as no attempt is made to import or manufacture boats of the racing type used in Western countries, rowing should be within the reach of many schools. Small dinghies, seating four boys each, may be had fairly cheaply, and two or three such boats will be found sufficient if the crews practise vigorously in turn over distances up to a mile. Naturally, rowing should feature as an after-school activity. It is unsuitable for class work during school hours.

(i) *Defensive arts*.—Boxing, wrestling, lathi play and jiu-jitsu are exercises in which two individuals compete against each other. They have the advantage of concentrating a great amount of vigorous exercise in a short space of time. All are excellent forms of exercise suitable for voluntary classes after school hours. The elementary movements of each (*e.g.*, foot-work, blocking, guarding, countering, etc., in boxing) may, however, be taught as free-hand exercises to school classes as part of a physical training lesson.

Qualifications and duties of Physical Instructors.

Qualifications.—With a scheme of physical education in view which includes as many of these activities as are practicable, the first question that arises is that of trained leadership. Only a teacher who has undergone a systematic course of training in both the theoretical and practical aspects of physical education can hope to organise and teach a comprehensive scheme of work suited to local conditions and to the needs of children of all ages. For this reason, the Government of Bengal have established a Physical Training Centre in Calcutta where graduates of proved athletic ability may obtain a Diploma in Physical Education after one year's training, and have decided further that only these qualified graduates may receive appointments as Physical Instructors in Government colleges and schools. *It has also been decided that in making grants to aided institutions the steps taken by the school authorities to create a post for a trained instructor will be taken into account.* All schools must, therefore, consider at a very early date the possibility of appointing such a teacher.

The reasons for deciding that only graduates shall be appointed are as follows:—

- (a) In the past, Drill Masters have, in most cases, been compelled to continue as teachers of physical training when long past the age of giving useful service, because they lacked the educational qualifications to take up work in the general teaching line. Again, schools which created posts for Drill Masters in addition to the normal quota of teaching posts, were interested in keeping down expenditure, and offered salaries which could only attract men of low professional and academic qualifications. The work, therefore, suffered because of the number of Drill Masters who were incapable of organising and teaching it properly.
- (b) If qualified graduates are appointed, they need not be the cause of extra expenditure for special posts. The average number of pupils per high school is about 200 to 250. If each class has two physical training lessons weekly during school hours, the physical instructor need only be engaged for sixteen periods weekly, and is free to undertake a certain

amount of teaching on the academic side. In a small school contiguous classes may be combined for physical training, and the teacher is free to devote more time to academic subjects. In this way, not only may expert assistance be obtained without extra charges upon school revenues; it may even be a means of saving what would otherwise be paid to a Drill Master.

- (c) A graduate physical instructor may, when he begins to feel his vigour diminishing, give up physical training and take up academic work. He thus makes room for a young and vigorous teacher to carry on the physical work, and at the same time qualifies himself for promotion to a higher school post.

In the circumstances, it is especially important that all high schools should refrain from making new appointments to Drill Masters' posts. There are, however, and will continue to be for some years to come, large numbers of Drill Masters who have given some years of service in their schools, and whose only means of livelihood would be taken away if their services were dispensed with. It is for such men especially that these instructions are intended as a guide, and Headmasters should do everything in their power to assist in improving the standard of physical training by encouraging their Drill Masters to adopt the suggestions that are made.

Duties.—The duties of physical instructors require special consideration. Normally, an instructor will carry on class teaching and physical training during school hours, and he will also be expected to organise games after school every day. It is too much, however, to expect him to be present on all days if he is fully employed during school hours. He must have assistance. Each school should, therefore, arrange for the class teachers in regular rotation, to assist after school hours on the games field. In a school with twelve teachers, each teacher will only be required to assist once in two weeks.

If the instructor is a Scoutmaster or a Bratachari leader, he should not be required to supervise games on the days when he conducts the activities of the special group. If he is both, then the two groups should meet on separate days.

In view of the long hours of the physical instructors, schools are strongly recommended to give a special allowance to compensate for the after-school work carried on.

Middle schools.—The foregoing remarks apply to high schools. It is not expected that middle schools will appoint trained instructors. Instead, each middle school should depute a young and vigorous teacher for training at one of the special courses organised each year by the Physical Director; or, alternatively, it should, in making new appointments, pay special attention to the qualifications in physical training of the candidates.

Facilities and apparatus.

School gymnasium.—During nearly five months of the school working year physical training out of doors during school hours can only be carried on under difficulties due to sun or rain. Each school

should, therefore, consider the possibility of erecting a covered shelter in which classes may be taught when work in the open is oppressive.

In its simplest form such a shelter consists of a roof supported on pillars. For classes of about 30 boys, the minimum size to enable the teacher to carry on free-hand exercises and minor games is $50' \times 25'$, but a shelter giving a clear floor area of $60' \times 30'$ is desirable. The internal height, to the lowest girder, should be not less than $10'$. Specimen plans are obtainable from the Physical Director.

Fixed apparatus, such as parallel bars, horizontal bars, inclined bars, horizontal ladder, etc., should be erected outside the gymnasium, as the whole floor space inside should be clear for active exercises and games.

Playing fields.—The minimum size of field recommended for schools which find themselves in a position to obtain one is 130 yards by 60 yards. This provides space for football or hockey, and for at least four basket-ball or volley ball courts at one end, *i.e.*, for about 80 boys playing simultaneously. During school hours the field, if close to the school, may be used, of course, for minor games of all kinds. A plan of a playing field is given on page 75.

It is very strongly recommended that the playing area for football should not exceed 100 yards by 50 yards. Experience has shown that school boys playing on a large area rapidly become exhausted, and that the quality of the play deteriorates in attempting to pass and dribble over a large area.

Where a school has no playing field, much may be done to improve the organisation of games by planning the school compound in such a way that every available space is utilised. Alternative methods of planning are shown on page 73.

Swimming tank.—There is a fairly general impression that a tank of considerable size is required for swimming instruction. It should be noted that the average size of tank in Western countries, including those in which national contests are staged, is 25×15 yards. A tank of this size will accommodate 40-50 boys for practice, and allows close and careful supervision by the teacher.

If a special tank is to be constructed for a school, the needs of both learners and of divers should be taken into account by providing a sloping bottom which gives a depth of three feet at one end and of ten feet at the other. A sketch is shown on page 68.

Where a tank which has not been specially constructed is used, provision for the safety of pupils should be made by fixing—

- (a) hand rails of bamboo just above the surface of the water, close to the bank; and
- (b) a hand rail or rope above the surface some three or four yards from the bank.

Only expert swimmers should be allowed to go beyond the outer rail.

Apparatus.—In order to carry on a programme of activities, apparatus is essential, but the amount will depend upon the funds of the school. The following apparatus is recommended:—

(a) *free-hand exercises.*—Forty “madoor,” measuring about 3' × 1' 6", to be used as individual mats by pupils for all sitting, kneeling, and lying exercises, unless there is grass.

(b) *Small area games.*—

- (1) Four footballs, size 5.
- (2) One football, size 4.
- (3) Six small rubber or tennis balls.
- (4) Twelve bean bags.
- (5) Six lengths of strong cord or thin rope, each 12' long.
- (6) Two bats of bamboo, each 2' long and 3" diameter.
- (7) Lime for marking lines.
- (8) Box for storing apparatus.

(c) *Major games.*—

- (1) Football. Goalposts; four footballs.
- (2) Hockey. Goalposts; four hockey balls, thirty hockey sticks.
- (3) Playground ball. One base-ball; two bats.
- (4) Basket-ball. One football, size 5, or one ball, size 6.
- (5) Volley ball. Two bamboo posts; one net; one football, size 3.
- (6) Hindusthan ball. Bamboo goalposts; one football, size 4.
- (7) Badminton. Two posts; net; eight racquets; twelve shuttles or balls.

(d) *Athletics.*—

- (1) One set high jump stands, 10' high.
- (2) Four bamboo poles for pole vault, 10' to 12' long, 2" diameter.
- (3) One pole vault box.
- (4) One take-off board for long jump.
- (5) One jumping pit 12' × 12' filled with sand.
- (6) 20-40 hurdles for hurdle race.
- (7) 12 bamboo posts, 6' × 1", for starts and finishes of races.
- (8) Two stop watches.
- (9) Two cricket balls.
- (10) Four javelins (bamboo).
- (11) One steel tape, 100' long.
- (12) Six sling balls.
- (13) Four batons for relay races.

(e) *Swimming*.—

- (1) Bamboo hand rails.
- (2) Two or more diving platforms.
- (3) One spring board.
- (4) One small dinghy (country made).
- (5) Two lifebelts, or small floating planks.

(f) *Folk dances*.—

- (1) One *dhole*.
- (2) One *Madol*.
- (3) One *Kanchi*.
- (4) One *Gab-guba-gub*.

(g) *Gymnastics*.—(This list is given in order of importance).—

- (1) One vaulting box.
- (2) One spring board.
- (3) Two mats of cocoanut fibre or of felt covered with canvas.
- (4) Four set parallel bars.
- (5) Four horizontal bars.
- (6) One horizontal (or "bridge") ladder.
- (7) Six climbing ropes with frame or alternatively, six climbing poles of bamboo supported on branches of trees.
- (8) Six sets inclined bars.
- (9) Four balance bars.

(h) *Boxing*.—

- (1) Two sets of boxing gloves.
- (2) Boxing ring (optional).

(i) *Wrestling and jiu-jitsu*.—One sand pit or large square mat.(j) *Lathi play*.—Forty lathis.

It is not expected that all schools will be able to supply all the apparatus mentioned above. Every school must, however, possess the following apparatus:—

Free hand exercises—

	Rs.
40 Madoor	... 5

Small area games—

4 Footballs	... 40
6 Small rubber balls	... 1
12 Bean bags	... 1
2 Bamboo bats.	
Lime.	
1 Box for small apparatus	... 5
30 Hockey sticks of cane	... 19
4 Hockey balls	... 10

	Rs.
<i>Athletics—</i>	
1 Set jumping stands (10' high)	... 12
4 Poles for pole vault	... 1
20 Hurdles	... 20
6 Sling balls	... 30
1 Steel tape (100' long)	... 18
1 Stop watch	... 35
1 Sand pit	
<i>Gymnastics—</i>	
1 Vaulting box	... 50
1 Spring board	... 40
1 Set parallel bars	... 1
3 Horizontal bars (various heights)	... 2
1 Horizontal ladder	... 40
Total	... 330

The following articles may be made locally. Directions for manufacture are given for the following apparatus in Appendix N, page 76.

Bean bags.
 Bamboo bats.
 Jumping stands.
 Hurdles.
 Sling balls.
 Vaulting horse.
 Spring board.
 Parallel bars.
 Horizontal bar.

Sports funds.

In a number of schools it is the custom to regard sports or games funds raised from fees as being for the exclusive support of major games (football, hockey, cricket), and to employ the money only to meet the expenses of a school team in these activities. As a result, the majority of pupils who pay fees receive no return for their money.

This is the wrong attitude. The care taken by school authorities in the physical welfare of pupils is judged, not by the success of one team, whatever the game, but by the physical standard of the majority of the boys. The first charge upon the sports fund should be the provision of playing areas and apparatus for carrying on a regular and systematic programme of physical training for all classes within the school, and so long as these facilities are wanting, at least two-thirds

of the fund should be allotted in the annual budget for general improvement. Scouting, Bratachari, Red Cross, and other voluntary activities should also receive attention when the budget is being prepared.

An annual sports fee, or, as it may better be called, a physical training fee of Re. 1 per boy in classes X-VII, and of annas 12 in Classes VI-III is compulsory. This will give a school of average size an income of about Rs. 250 annually. If from this amount Rs. 150 is spent annually for general purposes, essential apparatus from the above list may be purchased within two years, and the resulting improvement in the average standard of ability will undoubtedly lead to a higher standard in inter-school competitions in major games which now receive so much attention.

It may be noted in this connection that the distribution of special grants to Subdivisional and District Inter-School Sports Associations which organise inter-school competitions has solved part of the problem of local expenditure for such contests. The object of distributing these grants is to systematise the organisation of meetings between representative school teams by encouraging schools conveniently grouped in any part of the province to establish an organisation which will develop competitions of all kinds, and to carry them on in close touch with the Indian School Sports Association (Bengal), whose headquarters are in Calcutta. In this way it is hoped to introduce Provincial Championship Contests as the natural step after District or Subdivisional Meetings. (See page 21.)

The annual programme.

Once the authorities of a school have recognised the wide scope of the subject of physical training, and have done what they can to provide a good teacher, apparatus, and other facilities, the next problem is that of organising an annual programme of work. The nature of the programme will, of course, depend upon the school. One which has a qualified instructor, a well-equipped gymnasium, a swimming tank, and good playing fields, will naturally undertake a much more complete scheme of work than one which has a Drill Master of the old type and limited facilities.

The first thing to be realised is that, while every school *must* provide for the teaching of physical training, and the organisation of games after school hours for *all classes*,* it is not intended to lay down that all the activities mentioned above must be taught. Each school should decide for itself what branches of physical training are possible under local conditions. If, for example, a Drill Master knows nothing of swimming, he cannot be expected to teach it, even if there is a tank conveniently situated; or, if there is no playing field, major games cannot be introduced. Further, it has been agreed that if a school is without shelter of any kind and has no tank for swimming, physical training during the hottest months (April and May) may be omitted altogether from the school programme; but if this is done, at least one extra period weekly must be given during January and February. Any factor, however, which limits the scope of the programme should receive attention, and attempts should be made to improve matters.

In any school there are certain preparations which must be made before beginning the year's work. For physical training lessons during

*Classes X and IX should be included in all schemes.

school hours ordinary class groupings must be used, and allowance must, therefore, be made in drawing up lessons for wide divergence in size and physical ability. But in after-school activities, whether exercises or games boys should be regrouped so that each plays with others of approximately his own size. Appendix G, dealing with the House system, explains how this may be done.

In framing the annual programme, the following factors must receive consideration:—

- (a) *All* classes must have at least four periods of physical training weekly.
- (b) The work for juniors should differ in character from that for seniors.
- (c) The work must be adjusted to suit climatic conditions at various seasons.
- (d) In order to give cohesion to the whole scheme minor games should, as far as possible, be related to the seasonal major games.

Simple programme.

The majority of schools can organise as a minimum, free-hand exercises, minor games, major games for two teams at a time, and gymnastics on simple and cheap apparatus. In a school of 300 boys the following specimen programme will be found suitable:—

Junior School (Classes III to VI).—At all seasons, free-hand exercises and minor games during school hours, and minor games after school hours.

As a rule major games should not be taught to boys below twelve years as they are strenuous in nature and demand for their success an appreciation of the needs of team play which is not usually found in younger boys. A beginning may, however, be made with boys of advanced physique about the age of eleven years, as there is no hard-and-fast rule. If the boys are divided into groups for games, it will sometimes be found that physically advanced boys of 11 years are found amongst boys one or two years their senior, in age. In this case “physical age” may be accepted as a truer indication of their capacity than “chronological age” or “school age.”

Senior School (Classes VII to X).—The following programme is suitable for a school which arranges two periods of physical training during school hours and two after school each week. It may, however, be used with slight adaptation where all work is done after school hours:—

Physical training.

Games and sports.

January-February ..	(a) Free-hand exercises and gymnastics. (b) Minor games which emphasise running, jumping and throwing practice.	Athletics. (Boys divided into small groups to practise racing, high jumping, etc.).
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	Physical training.	Games and Sports.
March-April	.. (a) Free-hand exercises and gymnastics. (b) Minor games in which a small ball is used, to develop quick sight and fine co-ordinations.	Hockey.
July-August	.. (a) Free-hand exercises and gymnastics. (b) Minor games in which a football is used, especially kicking and dribbling games.	Football.
September-October	(a) Free-hand exercises and gymnastics. (b) Minor games in which a football is used for throwing passing, and bouncing with hands.	Basket Ball or Net Ball* or Hindusthan Ball
November-December	(a) Free-hand exercises and gymnastics. (b) Minor games in which a bat or bats, and small balls are used, to develop quick sight and fine muscular co-ordinations.	Cricket or Rounders. (For cricket, practice in batting, bowling, and fielding, in groups of about six boys is better than a game between teams, but at least eight bats are required.)

NOTE.—(a) Except in competitions, it is quite unnecessary in major games to adhere to the regulations as regards the number of players in a team. Excellent practice in Hockey, Football, Basket Ball, etc., may be had with teams having two or three more or less than the regulation number.

(b) After August the football field should be re-marked (and apparatus erected when necessary) for games such as Basket Ball, Hindusthan Ball, Cricket, and Rounders, and for Athletics. If this is done, ample space will be found for the accommodation of all boys in each daily group. The practice of leaving a football field practically unused during most of the year is wasteful.

(c) Boys who are specially interested in gymnastics should be formed into special classes for after-school work. The element of freedom of choice thus given creates a good atmosphere, and reduces the number for whom accommodation must be found for major games.

Advanced programme.

In schools where there are facilities for activities in addition to those mentioned above (and where there are teachers who are capable of teaching them), a more complex programme may be introduced. If, for example, there is no limit of space or apparatus the programme may be drawn up as follows:—

- (a) Boys who are Scouts follow the programme prepared by the Scoutmaster, and should be excused attendance at one of the games periods, provided the Headmaster is satisfied

*Net Ball is a cheap and simplified form of Basket Ball suitable for school use. The rules are given in Appendix C.

†Hindusthan Ball is a hand-ball game of a vigorous and interesting kind. The rules are given in Appendix D.

that they are getting adequate exercise, and that they attend regularly.

- (b) Boys who are Bratacharis adopt the leader's programme, under conditions similar to the Scouts.
- (c) Boys above twelve years of age with a preference for gymnastics, boxing, wrestling, etc., enrol for one of these groups, which must meet at least twice weekly throughout the year.
- (d) The remaining boys take part in organised games in Houses, the groups being formed according to the numbers available.

Junior School (Classes III to VI).—At all seasons, free-hand exercises and minor games during school hours, and minor games after school hours.

Senior School (Classes VII to X).

	Physical training.	Games and sports.
January-February ..	Free-hand exercises. Minor games in which running, jumping, and throwing predominate, or athletic practice. Gymnastics on apparatus.	Athletics. (Racing 100 yards, 220 yards, etc., high and long jumping, pole vaulting, throwing cricket ball, etc.)
March ..	Free-hand exercises. Minor games using sticks and hockey ball (e.g., dribbling and passing races). Gymnastics on apparatus.	Hockey for main groups. Boxing, wrestling, lathi play, or jiu-jitsu for those specially interested.
April-May ..	Swimming, diving, water polo, and life-saving.	Swimming, diving, water polo, and life-saving.
July-August ..	Free-hand exercises. Minor games using footballs (e.g., long kicking, dribbling, passing). Gymnastics. Swimming, diving, water polo, and life-saving.	Football for main groups. Rowing or swimming for those specially interested.
September-October	Free-hand exercises. Minor games using footballs with the hands (e.g., bouncing, passing, etc.). Gymnastics. Swimming, diving, and life-saving.	Basket Ball, Net Ball or Hindusthan Ball for main groups. Swimming for those specially interested. (If the majority desire to swim, special voluntary classes should be organised at the week-ends.)
November-December	Free-hand exercises. Minor games using bats and cricket balls. Gymnastics on apparatus	Cricket practice (bowling, batting, and fielding in small groups). Inter-house competitions at the week-ends. Or Rounders (Playground Ball).

Organisation of routine lessons.

In order to be effective, the physical training lessons during school hours must be well planned. The intention of the syllabus is to leave the teacher a fairly wide choice of activities, and the books recommended by the department (see page 23) are intended to provide him with information which will help him to choose activities suited to local conditions, and to teach these in an efficient manner. This means, however, that the teacher must carefully prepare, for each class, successive lessons throughout the year which will ensure regular progression. The constant repetition month by month of the same physical training lesson is as futile as the repetition of, say, the same lesson in mathematics. The primary purpose of physical training is to extend to its fullest capacity the gradually developing physical capability of each boy, and to guide that development, and this can only be done by introducing at least one new lesson for each class every month.

In the Junior School this is comparatively easy, for the exercises and games are fairly simple in character. But due regard must be paid to the rapidly improving physical capabilities of the children, and to the mental characteristics which determine the types of games that have most natural appeal.

In the Senior School the following methods of organising class work are suggested—

(a) Each class should be divided into four permanent teams (A,B,C,D) with a leader in charge. In all free-hand exercises these teams should form up in files or lines as required by the nature of exercises. No time should be wasted in formal numbering and opening from one line to four lines. (If there are four Houses, *each team should be made up of the boys from one House, except for minor adjustment of numbers.)

(b) In gymnastics and agility exercises each team should be deputed to a particular piece of apparatus or space. Each team should carry on practice under the control of its team leader, and the teacher should supervise generally. In team work of this nature, good discipline and control are essential, and leaders should be taught to exert their authority. After a reasonable time, the teams should change places in rotation, so that each works in turn at all varieties of exercise.

(c) Each team should be approximately of equal ability, *i.e.*, have a mixture of short and tall boys, so that, for minor games they can be matched against each other.

(d) In team games the permanent teams should always be used, as this saves the time usually spent in selecting teams. Two methods of play may be followed:—

(i) Two teams may play against each other on one court and two on another court, team leaders controlling and the teachers supervising generally. If this is done, a progressive competition on successive days may be arranged thus—

1st day—A v. B and C v. D.

2nd day—A v. D and B v. C.

3rd day—A v. C and B v. D.

*See Appendix "G" for a full description of the House System.

- (ii) Two teams may play against the other two on the same court.
A progressive competition may be arranged thus—

1st day—A and B v. C and D.

2nd day—A and C v. B and D.

3rd day—A and D v. B and C.

Points are awarded for each time a team is on the winning side.

(e) In athletic practice, each team may be detailed to a different activity under its team leader, *e.g.*, Team A, High Jump; Team B, Pole Vault; Team C, Throwing the Cricket Ball; Team D, 100 Yards Race. Teams change activities each day so that, after four lessons, all have practised every item.

(f) In swimming, re-grouping is necessary. Three groups may be formed: (i) advanced swimmers; (ii) swimmers (iii) learners. Each group should, during practice, be placed in the charge of an expert boy and the teacher should take charge of each group in turn for special teaching. For further safety, boys should always practice in pairs.

(g) By marking the compound and placing the apparatus in an effective manner (see pages 73 and 74) simultaneous gymnastic or games practice in teams may be carried on in order to save time and to give each boy the maximum amount of practice.

(h) Before each lesson boys should divest themselves of superfluous clothing. It is the practice to play football in banians and half-pants and there is no reason why the same dress could not be introduced for all physical training lessons. If half-pants cannot be obtained, the "*mal kocha*" should be worn.

(i) Allowing five minutes at the beginning of the lesson and five at the end for changing clothing, 35 minutes are left for exercise. This time may be divided as follows—

(i) Free-hand exercises—10 minutes.

(ii) Gymnastics—10 minutes.

(iii) Minor games or athletics—15 minutes.

(j) In swimming, allowing ten minutes for changing clothing, 35 minutes are left for swimming practice. The teacher may spend about ten minutes with each group.

(k) Different classes should not usually be combined for simultaneous work under one teacher. It is not unusual to find a junior class grouped with a senior class, which makes all the efforts of the instructor futile. If numbers are small, contiguous classes may be combined (*e.g.*, X and IX, VIII and VII, etc.).

Organisation of after-school activities.

The development of a scheme of organised games for all boys after school hours is complicated by the following difficulties:—

(a) Many boys do not take midday tiffin and are therefore hungry before four o'clock.

(b) Some of them walk or cycle long distances to the school and are unable to go home at four o'clock, have tiffin, and return to the school for games.

- (c) The school compound is not large enough to accommodate large numbers of boys for games.
- (d) There is no playing field for major games.

The following scheme* is one which takes into account the obstacles mentioned above:—

- (i) Reduce each school period by five minutes, and stop academic work at 3-30 p.m. Arrange all physical activities after 3-30. The apparent loss of time for academic work is almost balanced by the fact that two weekly periods per class previously given for physical training can now be devoted to academic subjects.

(Even if this plan is not adopted, the following suggestions may still be carried out.)

- (ii) Divide the school into two main groups: A, those who live at some distance from the school; and B, those who live fairly near the school. (In a school of 300 boys, there may be approximately 150 boys in each group.)
- (iii) Depute group A to attend for organised games from 3-30 to 4-15 p.m., and group B from 4-15 to 5 p.m. (or alternatively, from 4 to 4-45 p.m., and 4-45 to 5-30 p.m.). This enables boys of group B to go home for tiffin, and return for games.
- (iv) Organise the work for both groups separately as below
- (v) Divide each group, A and B, into seniors and juniors, according to height, and number them I, II (Group A) and III, IV (group B). In a school of 200 boys, there will be 50 in each group. Allot four days weekly to each group, remembering that I and II, being composed of students who live at a distance, must practice immediately after school hours.
- (vi) Plan the school compound for at least two separate games (say basket ball and volley ball, or a circle game and Kapati) so that 25 boys may play on each court. If possible, obtain apparatus for gymnastics, teni-koits and athletic practice, so that boys specially interested may be deputed to these activities and thus reduce the numbers playing on the other courts.
- (vii) Prepare a register for each section which will be carefully marked up by the teacher in charge.
- (viii) Depute all teachers to attend in rotation, either to help the instructor if there is one, or to take full charge of the games if there is no instructor. (Instructions to this effect were issued by the Director of Public Instruction in his circular No. 23, dated the 9th June 1927.) If there are twelve teachers on the staff, each will have to attend once in two weeks, which is not a hardship.

*The principles of this scheme may be adopted in schools where the House system is in use.

Under a scheme such as this, there is no reason why any school of average size, with a compound only one hundred feet square, and the minimum of apparatus, should not organise games in an effective manner.

Records of work.

At present there are few teachers who realise the importance of carefully planning their work, and as a result they seldom have records of the activities which have been carried on by their classes. This is especially so in the case of free-hand exercises and minor games, subjects in which systematic progression is of the utmost importance.

At any period during the year a teacher should be able to produce full notes upon the monthly lessons taught to each class since the beginning of the sessions, the lesson which is then being taught, and the draft lesson which it is intended to teach during the following month. Alterations made during any month in the lesson which has been prepared should be noted, and the result will be an exact record of work accomplished. No teacher can plan progressive work systematically without such a record.

Every physical instructor *must* keep a record of work throughout the year. It should be kept in a note-book of at least 80 pages, in which the first 10 pages should show 10 monthly lessons for Class III, the next 10 for Class IV, and so on. Each page should show—

- (a) Free hand, agility, and gymnastic exercises taught during the month.
- (b) Minor games, major games, athletics, swimming, etc., organised.
- (c) Dates on which the class was due to attend, according to the normal routine.
- (d) Dates on which physical training was cancelled, with reasons.
- (e) Remarks on the progress of the class or of individuals.

Similar records of activities, progress, and dates of meetings or rallies, as well as attendance registers, should be kept by teachers in charge of Scouts and Bratacharis.

Physical efficiency examinations.

The question of introducing compulsory examinations in Physical Training is now under consideration of Government. Examinations are necessary partly as a means of studying progress, but even more as an incentive to students to care for their health and to realise the importance of physical fitness.

It is proposed that at two stages of school life each student should be tested as regards physical efficiency, and that, if he fails to reach certain standards, his promotion will be deferred. With this in view experimental work has been carried on in a number of Government schools. Pending the issue of the standards, schools should adopt those given on page 22.

Organisation of competitions.

Within the school.—In many schools competitions in football are organised between representative teams from the senior classes, but it does not seem to be generally realised that this incentive to developing a high standard of ability may be used with valuable results throughout the year by organising contests in other games (both major and minor) and in athletics and swimming.

The drawback to class competitions is that Classes X and IX are usually superior to the others, who therefore are less interested than they would be in more equal contests. The House system already suggested provides a means of improvement, because boys take part in inter-House competitions against their equals. (See House System, page 36.)

Organisation of inter-school competitions.—The time has now come when a definite attempt should be made to introduce inter-school competitions on systematic lines in all parts of the province. The organisation of football competitions between schools within easy reach of each other has been common in the past, but seldom has any attempt been made to extend the scope of these to include other activities or to ensure some degree of permanence by the establishment of committees or associations.

Considerable improvement has been effected in recent years by the spread of the Inter-School Sports movement. The Inter-School Sports Association (Bengal) has been in existence since 1911. Until 1929 it organised only annual athletic sports for Calcutta schools, but it now controls athletics, football, hockey, swimming, cricket, and physical training competitions. About 40 mufassil branches are affiliated to it, and a scheme of a reorganisation has been started which aims at—

- (a) The establishment of a District Association in each district affiliated to the Indian School Sports Association (Bengal).
- (b) The co-ordination of smaller associations under the District Associations.
- (c) The establishment of Subdivisional or Zone Associations, where they do not exist, and their affiliation to the District Association.
- (d) The organisation in Calcutta and other centres in rotation of all-Bengal championship contests for district champions in athletics, football, hockey, swimming, physical training, basket-ball, Hindusthan ball, kapti, etc.

Government grants, as in the past, will be given, but on an extended scale. Only District Associations will, however, be entitled to receive grants, and affiliation to the Indian School Sports Association (Bengal) will be a condition of grants.

Classification of boys for competitions.

Classification of boys according to age is unsuitable, not only because many boys cannot produce records of their date of birth, but also because the physique of pupils of the same age may vary considerably. This can be proved by study of the boys of any school class.

The only satisfactory method which is simple enough for school use is classification by height, which gives a rough indication of physical capacity. Exceptions will, of course, be found, *e.g.*, short sturdy boys who are stronger and more agile than tall, thin boys: but there is no other simple rule which can be so widely applied.

For all school and inter-school competitions (apart from physical training and organised games in the school routine) boys should be classified in the following groups, which have already been adopted by the Indian Schools Sports Association (Bengal) and by affiliated school associations:—

Seniors—Over 63 inches in height.

Intermediates—Over 57½ inches up to 63 inches in height.

Juniors—52 inches to 57½ inches in height.

Boys below 52 inches in height should not take part in inter-school competitions.

Tests of physical efficiency.

One of the best means of encouraging boys to take an interest in their development is to conduct a regular series of tests so that they may be able to study their progress. Games are unsuitable, since there can be no accurate measurement of results—only a general estimate of ability. But activities of an athletic nature may be used for the tests.

As a result of investigations carried on in a number of schools, it has been found possible to calculate the present standard of physical ability in certain athletic tests, and to draw up from these results a series of standards which may be attained by boys after systematic teaching and regular practice. The following are the standards:—

	Senior group. (Over 63" height.)		Intermediate group. (Over 57½" to 63" height.)		Junior group. (52" to 57½" height.)	
	1st class. Standard.	2nd class. Standard.	1st class. Standard.	2nd class. Standard.	1st class. Standard.	2nd class. Standard.
High Jump ..	4' 9"	4' 4"	4' 3"	3' 10"	3' 10"	3' 7"
Long Jump ..	15' 6"	14' 0"	14' 0"	11' 6"	12' 0"	10' 6"
Cricket Ball ..	70 yds.	60 yds.	60 yds.	50 yds.	50 yds.	40 yds.
75 yards Run ..	..	..	10 sec.	11 sec.	11 sec.	12 sec.
100 yards Run ..	12 sec.	13 sec.	13 sec.	14 sec.	..	..
220 yards Run ..	27 sec.	30 sec.	..	..	..	..
Don Exercise ..	20 times	14 times	17 times	10 times	12 times	8 times.
Baithak Exercise ..	30 times	24 times	25 times	15 times	20 times	10 times.
Chinning the Bar ..	8 times	5 times	3 times	3 times	3 times	Once.
50 yards Swim ..	..	..	..	..	45 sec.	55 sec.
100 yards Swim ..	1m. 30 sec.	1m. 40 sec.	1m. 45 sec.	2m. 0 sec.	..	..

It is to be noted that (a) these standards are fixed above the present average, in order to emphasise the need for improvement by systematic

practice; and (b) they may be altered in future years if it is found that the ability of schoolboys improves. Full details of the method of carrying on each test may be obtained from the Physical Director, Bengal.

In order to give definite encouragement to boys to attain these standards, the Department of Public Instruction has decided to award certificates (as shown in Appendix F) signed by the Physical Director, Bengal, to all boys who are certified to have reached the required standard. The procedure will be as follows:—

(a) The physical instructor of a school will encourage his boys to practice the activities, and after some time conduct a test and select those who are capable of passing. In the case of Seniors and Intermediates seven items must be passed, and in the case of Juniors, six.

(b) The Headmaster will then communicate the names of the boys to the Secretary of the local Inter-School Sports Association, who will arrange for at least three members of the executive committee (of whom none may be connected with the school concerned) to conduct the tests.

[Certificates will only be awarded to students of schools affiliated to a local School Sports Association which conducts its activities under the auspices of the Indian Schools Sports Association (Bengal), whose headquarters are in Calcutta.]

(c) A record of the performance of each candidate in each item will be certified by the examiners and forwarded to the Physical Director, Bengal, who will issue the certificates.

List of reference books.

Each school should add to its library a number of books on the various aspects of physical education, so that teachers and students may refer to them for information regarding the activities in which they are specially interested. The following is the preliminary list approved by the department, and officially recommended for school use. These books provide the essential information for teachers:—

- (1) Physical Training Programmes. J. Buchanan. (Longmans, Green and Co., Ltd., Calcutta.)
- (2) Byayam-Shiksha, Parts I and II. Subodh Chandra Sen and Banagopal Mitra. (Brindaban Dhar & Sons, Ltd., Calcutta.)
- (3) Chheleder Khela—Nripendra Nath Bhose. (Boy Scout Headquarters, 5, Government Place, North, Calcutta.)
- (4) Athletics—How to succeed. (Evans Brothers, Ltd.)
- (5) Swimming—How to succeed. (Evans Brothers, Ltd.)
- (6) Football—How to succeed. (Evans Brothers, Ltd.)
- (7) Khelar Chhale Byaam—J. Buchanan (U. N. Dhur & Sons, Calcutta.)

Other useful books on various activities are:—

Journals.—

- (1) Swimming (monthly). National Swimming Instructor's Association, Pittsburgh, Pa., U.S.A. (Rs. 4-8.)

- (2) *Journal of Physical Education* (three times annually).
Editor F. N. Punchard, School of Physical Education,
Jordanhill Training College, Glasgow, Scotland. (Rs. 3-8.)
- (3) *Journal of British Olympic Association* (quarterly). British
O.A., 71, Eccleston Square, London, S.W. 1. (Rs. 3-8.)
- (4) *Journal of Health and Physical Education* (monthly). Editor,
P.O. Box 362, Ann Arbor, Michigan, U.S.A. (Rs. 6-0.)
- (5) *The Swimming Times* (monthly.) Editor, 4, Waddon Park
Avenue, Croydon, London.

Physical exercises and gymnastics.—

- (1) *Syllabus of Physical Training* (1933), English Board of
Education. (Re. 1.)
- (2) *Reference Book of Gymnastic Training*. English Board of
Education. (Rs. 3.)
- (3) Knudsen. *Text-Book of Gymnastics*. (Heinemann.) (Rs. 7.)
- (4) Moss. *Horizontal Bar Exercises*. (Thacker Spink.) (Re. 1.)
- (5) Moss. *Parallel Bar Exercises*. (Thacker Spink.) (Re. 1.)
- (6) *Mass Pyramids for Gymnastic Displays*. (Thacker Spink.)
(Re. 1-6.)
- (7) Zwarg. *Apparatus and Tumbling Exercises*. (Mc. Vey.)
(Rs. 12.)
- (8) British Army. *Manual of Physical Training*. (Government
publication). (Rs. 2-4.)
- (9) McDowell. *Vaulting*. (Oxford University Press.) (Rs. 2.)

Swimming and life saving.—

- (1) Sheffield. *Swimming Simplified*. Barnes. (Rs. 6.)
- (2) R. L. S. S. *Handbook of Instruction*. (Royal Life Saving
Society.) (Re. 1.)
- (3) Davies. *Swimming*. (Lea and Febiger.) (Rs. 7-8.)
- (4) *Swimming—How to Succeed*. (Evans Brothers, Ltd.) (As. 3.)
- (5) *International Swimming Federation Rules*. (Evans Brothers,
Ltd.) (Rs. 2-6.)
- (6) *The Art of Springboard Diving*, by F. W. Hobden.
(Putnam.)

Athletics.—

- (1) Webster and Heys. *Exercises for Athletes*. Shaw (London.)
(Rs. 5.)
- (2) Abrahams. *Training for Athletics*. Shaw (London.) (Rs. 4-8.)
- (3) Bengal Olympic Association—*Handbook*. (B. O. A., 25,
Chowringhee, Calcutta.) (As. 9.)
- (4) *Athletics—How to Succeed*. (Evans Brothers, Ltd.) (As. 3.)

Minor games.—

- (1) Bancroft. Games for Home, School, Playground, Gymnasium. (Association Press.) (Rs. 7-14.)
- (2) McCuaig and Clark. Games worth playing. (Longmans, Green and Co.) (Rs. 3.)
- (3) McCuaig. Stepping Stones to Cricket, Football and Hockey. (Longmans, Green and Co.) (Rs. 2.)
- (4) English Board of Education. Suggestions in regard to games. (As. 6.)
- (5) Khelar Sathi—Panchanan Ganguli (Ashutosh Dhar & Sons, Dacca.)

Boxing, etc.—

- (1) Burns. Scientific Boxing and Self-Defence. Bell. (Re. 1.)
- (2) Hancock. Complete Kano Jiu-jitsu. Bell. (Rs. 9-3.)

First Aid.—St. John Ambulance Association, Calcutta. First Aid to the Injured. (Re. 1.)

Major Games.—Army Sports Control Board (India). Handbook (Re. 1.)

These books may be obtained through any of the more important booksellers in Calcutta. Rupee prices given are approximate.

Tiffin supply in schools.

There are three reasons why schools should give special attention to the question of organising tiffin schemes:—

- (a) Many guardians are careless about the quality of food supplied to their boys, or ignorant of the elementary rules of diet, preparation, and method of eating.
- (b) Guardians in poor circumstances in the effort to find money for fees and other school expenses, sacrifice the health of their boys by providing inadequate food.
- (c) The length of the school day, and the requirements as regards regular exercise, make it imperative that something should be done to supply midday tiffin on the school premises, under proper supervision.

Experience in a number of non-Government schools, and in most Government schools, has shown that, given the co-operation of the members of the staff, a modest scheme may be worked out at a cost of about annas 4 per month per boy. This amount cannot be deemed excessive, in view of the benefits which will result.

There are, however, schools which are not prepared to introduce a tiffin fee of even annas 4 per month because of the financial position of the boys. In their case the difficulty may be got over by arranging that the boys in each "games group" will be supplied with tiffin only on the days upon which they are required to remain after school hours for games. That is to say, each boy will be given tiffin twice weekly. The cost per boy for such a scheme should not be more than annas 2 monthly.

Appendix A gives a copy of a letter issued by the Director of Public Instruction to all Government high schools regarding the introduction of compulsory tiffin schemes in all Government schools, as an experimental measure for one year. The information given will be found useful by non-Government schools which are treating this important question seriously.

Grants for Medical Inspection, Tiffin Supply, and Physical Education.

Government have decided that, although the cost of giving recurring grants to all schools for medical inspection, tiffin supply, and physical education, is prohibitive, a certain number of specially selected schools will each year be given such grants. Preference will be given to schools which have, on their own initiative, appointed qualified physical instructors and have provided a comprehensive programme for physical education.

The grants will be as follows:—

- (a) A tiffin grant of annas 3 per student per month, on condition that a tiffin fee of anna 1 per month is introduced.
- (b) A medical inspection grant of six pice per student per month, provided a fee of two pice per month is levied, and provided a competent medical practitioner is engaged to conduct one thorough medical examination of all students annually and to supervise special cases.
- (c) A grant to assist the school to acquire or improve its playing field or swimming tank and to purchase apparatus for physical training and games.

The object of these provisions is mainly to ascertain what results can be expected from systematic attention to all aspects of health education. The results will determine the nature of future plans in this direction.

The functions of District Organisers of Physical Education.

Twenty-six posts for District Organisers of Physical Education have recently been created by Government and one officer has been placed in each district.

So far as High Schools are concerned, although it is necessary that all should appoint trained instructors, there is bound to be a lag period. It is neither possible nor desirable to try to train the required number of instructors during one year. During this period the District Organiser will regularly visit the schools in his area to explain requirements, study local problems and offer possible solutions, demonstrate improved methods of organisation and teaching, examine results, and send reports on schools to the Physical Director.

At the same time the Organiser will conduct special short training courses in games and sports for class teachers in High Schools. Although it is expected that all teachers will be required to assist in

the organisation and control of after-school activities, there are very many whose knowledge of games, sports, and other activities is limited. The need for short courses is, therefore, apparent.

In Middle and Primary Schools the District Organisers will do work of a similar kind, visiting the schools, and conducting training courses. The main difference is that these schools are not expected to maintain qualified physical instructors, and the training work will therefore aim at making as many class teachers as possible competent to teach free-hand exercises, gymnastics, swimming, and other activities suitable for the type of school concerned.

The Organisers will also provide expert advice and guidance on the promotion or extension of the work of Inter-School Sports, Scouting, Bratachari, and Junior Red Cross.

The work and functions of the Organisers is fully explained in Appendix L.

Conclusion.

As a result of these instructions and suggestions, it is hoped that schools will recognise the importance of a good scheme of physical education, adopt a wide and comprehensive view of the scope of the subject, and take early steps to introduce an effective plan of physical training which fulfils the requirements of the departmental syllabus in this subject.

Although physical training has been developing on the schools of the province during the last twenty years, the position of the subject was not defined until June 1928, when circular No. 23* of the Director of Public Instruction was issued. Even since then progress has been slow, and it is now considered that the time has come for school authorities to realise their responsibilities in physical education, and to adopt a definite policy as regards time-tables of work, qualifications of physical instructors, and methods of organisation.

Further information regarding any of the matters dealt with in the foregoing pages may be obtained from the Physical Director, Bengal.

*The following circulars of the Director of Public Instruction, Bengal, are reproduced as appendices :—

Appendix H—Circular No. 23, dated 9th June 1928.

Appendix I—Circular No. 1, dated 29th January 1930.

Appendix J—Circular No. 18, dated 27th June 1930.

APPENDIX A.

Tiffin supply.

Circular No. 23, dated Calcutta, the 8th December 1934.

From—The Director of Public Instruction, Bengal,

To—All Divisional Inspectors and Inspectresses of Schools and all Headmasters and Headmistresses of Government and Aided High Schools in Bengal.

I have the honour to refer to the question of tiffin supply in high schools, which was first raised in the Director of Public Instruction's circular No. 32/5M-172G-29, dated the 8th November 1929, and to state that it has been decided, as an experimental measure, to introduce tiffin supply on a compulsory basis in all Government high schools. Steps should therefore be taken to work out in each school a scheme suited to local conditions, and to include amongst the charges for the school session, January-December 1935, a compulsory monthly tiffin fee to cover the cost estimated by you.

The considerations which have led to this decision are as follows:—

- (a) The proportion of undernourished children in schools is so high as to indicate that in many homes the requirements of a well-balanced diet are not understood.
- (b) The pupils attend school for some five hours daily and a large majority are unable to obtain tiffin during that period.
- (c) Foodstuffs supplied by vendors are often of doubtful quality and cleanliness, and are more expensive than if supplied by the school.
- (b) Pupils cannot be expected to join in after-school games unless something can be done to provide them with food during the day.

Local authorities have been consulted, and they are generally agreed that the introduction of a tiffin scheme is not only desirable but fairly easy of accomplishment and inexpensive in operation. It is clear, however, that no scheme applicable to all parts of the province can be given in detail. It has therefore been decided that each school shall work out a scheme based upon the general considerations given in the attached appendices. These are—

A—Schemes now in operation in certain schools.

B—Combinations of foodstuffs recommended by the Director of Public Health, Bengal.

If a tiffin scheme is to be successful in any school it is essential that the Headmaster and at least one member of the staff should be personally interested in it. A certain amount of preparatory work will be necessary, such as estimating the local costs of various combinations of foods, purchasing utensils, and arranging for the preparation of the food. And, once the scheme has been begun, some organisation is required to ensure that the materials reach the boys without waste of time or chance of contamination. It is felt, however, that if non-Government schools in large numbers are to be persuaded to introduce

this very necessary development, a lead must be given by Government schools, and this can only be done by demonstrating that the difficulties of preparation, of distribution, and of satisfying caste observances can be overcome in a manner which will add little to the existing school fees.

When the scheme has been in operation for about nine months, a statement should be prepared by each school and forwarded to the Inspector of Schools, showing—

- (a) The number of pupils and the average daily attendance.
- (b) The foodstuffs supplied and the total cost per month.
- (c) The local price of each type of food.
- (d) The amount of each required per month for 25 boys.
- (e) Establishment charges (utensils, cook's pay, fuel, etc.).

Tiffin scheme at Nalhati High English School, Birbhum.

Tiffins are prepared by hostel servants under the supervision of a teacher. The average daily attendance is 204.

During day school two pieces of *roti*, with *dal* or *halua*, are given daily. During early morning school (hot weather) soaked *chhola*, with *gur* or ginger and salt are supplied.

The average monthly expenditure during day school is Rs. 35, made up as follows:—

			Rs.
50 seers <i>dal</i>	...	...	...
5 maunds 20 seers flour	...	...	...
Establishment charges	...	...	...
			24
			11

The average monthly expenditure during morning school is as follows:—

			Rs.
1 maund 8 seers <i>chhola</i>	..	..	..
5 seers ginger	..	..	..
Establishment charges	..	..	..
			12
			11

Allowing for seasonal variations in price and absences of boys, it is found that tiffin can be supplied on all working days except Saturdays at a monthly fee of annas 2 for twelve months in the year.

Tiffin scheme at Hamilton High School, Tamluk.

Tiffins are prepared by a Brahmin cook under the supervision of a teacher and served out by selected Brahmin pupils. The average daily attendance is 300 out of 340.

On Mondays, Tuesdays, Wednesdays and Thursdays, *paratas* and potato or *chapatis* and *dal* are given. The daily estimate is as follows:—

		Seers.	Rs.	a.	p.
<i>Atta</i> (coarse)	..	12	1	4	6
<i>Ghee</i> (Lakshmi brand)	..	22	2	11	0
Potatoes, or	..	20	2	0	0
<i>Dal</i>	..	10	1	2	0
Labour and fuel	..		0	8	6

On Fridays a lighter tiffin of *muri*, cocoanut, plaintain, *chira-gur* or ground-nuts is given at a total cost of Rs. 2-5 daily.

Tiffin is supplied on 186 full working days in the year, and the cost is recovered by a monthly fee of annas 4 for twelve months. Usually there is a balance, which is used up at three or four outings or social gatherings each year.

The school is divided into twelve "Houses" and the food for each "House" is carried in two buckets, with well fitting lids to prevent contamination.

Tiffin scheme at Keshab Academy, Calcutta.

Tiffin consists of brown bread, *boot-dal*, and potatoes for the majority, but those boys with orthodox principles are provided with cucumber, melon, apple, orange, plantain, or other fruit. To the classes in turn *bel sherbet* and other drinks are supplied during hot weather.

The monthly fee is annas 4, which must be paid along with the school fees.

The supply for each class is carried from the school kitchen to the class-room in marked boxes, and distributed under the supervision of the class teacher.

APPENDIX B.

Combination of foods recommended by the Director of Public Health, Bengal.

		Chattacks.	Protein.	Fat.	Carb.	Calories.
Group I—						
Bread (brown)	..	1	6.3	.9	42.9	211
Butter	..	1/8	.5	5.7	..	54
Sugar	..	1/4	..	..	14.2	58
Milk	..	4	7.2	8.6	11.3	150
	..	..	14	15	68	473
Group II—						
Suji	..	1	6.3	.9	42.9	211
Sugar	..	1	..	..	56.8	232
Ghee	..	1/8	.5	5.7	..	54
Milk	..	4	7.2	8.6	11.3	150
	..	..	14	15	111	647
Group III—						
Muri or chirra	..	1	3.6	.2	43.6	196
Sugar	..	1/2	..	..	28.4	116
Milk	..	4	7.2	8.6	11.3	150
Group IV—						
Loochi	..	1	6.3	.9	43	211
Ghee	..	1/2	..	..	28.4	116
Potato	..	1/2	.4	..	..	..
Milk	..	4	7.2	8.6	11.2	156
	..	..	14.15	32.5	54.3	442
Group V—						
Bread	..	1	6.3	.9	42.7	211
Butter	..	1/8	.5	5.7	..	54
Egg (one)	..	1	6.5	4.9	..	72
Sugar	..	1/4	..	..	14.2	58
	..	..	13.3	11.5	56.9	395
Group VI—						
Chirra or muri	..	1	3.6	.2	43.6	196
Cocoanut pulp	..	1	3.2	30	3	329
Sugar	..	1/2	..	..	28.4	116
	..	..	7	30	75	641
Group VII—						
Sweets, sandesh or rasa-golla.	..	1	12.2	9.5	..	138
Milk	..	4	7.2	8.6	11.3	150
	..	..	19.4	18	11.3	288
Group VII—						
Germinating gram	..	1	31	27.3	46.1	572
Groundnut	..	1	..	..	..	..
Gur	..	1/4 oz. or 1/8 chattack.	..	..	..	..

APPENDIX C.

Rules of Net Ball.

Net Ball is played on a rectangular court of any convenient size, say 30×20 yards minimum. The goals are from hoops, 18 inches in diameter, mounted on bamboo posts nine feet high, placed one yard inside the end lines. The game is played with a football.

The players are placed as for football, and have much the same functions. The rules are—

- (a) There must be no—
 - (i) deliberate kicking of the ball,
 - (ii) rough play (*i.e.*, handling players, struggling for possession of the ball, tripping, knocking the ball from an opponent's hands, etc.),
 - (iii) punching the ball with the fist clenched,
 - (iv) running more than two steps while holding the ball,
 - (v) holding the ball more than two seconds, and
 - (vi) bouncing with both hands.

The penalties are—

- (1) For infringement of (i) and (ii) above, a penalty throw is given from a point ten feet from the post.
- (2) For infringement of any other rules, a free throw is given from the side line at the point nearest that where the foul occurred.

If the ball goes out of play, free throws or corners are taken as in football. It should be noted that, as the goal posts are one yard from the end lines, the ball does not always pass out of play when an attempt is made to score a goal.

APPENDIX D.

Rules of Hindusthan Ball.

1. *Grounds*.—A rectangular court—35 yards×25 yards minimum.
2. *Goals*.—7 feet high and 12 feet wide.
3. The ground is divided into two equal parts by a line drawn through the centre and parallel to the goal lines; the ball is placed at the centre and one party should stand at a distance of 2 yards back from the central line when the play begins.
4. The penalty area is 9 yards wide and 3½ yards deep. Penalty throws are made from a place marked at a distance of 6 yards from the centre of the goal.
5. The ball is a No. 3 or No. 4 football.
6. *Players*.—Teams of 7, 8 or 9 according to space. (Goal-keepers, backs, half-backs and forwards.)

7. *Duration*.—Any convenient time.

8. *Commencement*.—The ball is laid on the ground at the centre of the field and is propelled with one hand anywhere in front of the centre line. Opponents must stand 2 yards away from the centre when the play commences.

9. Players may play the ball either with one hand or both, by bouncing it on the ground and passing amongst themselves.

10. The rules and penalties are, as in the case of Net Ball, with the following exceptions:—

- (a) all fouls except penalties are taken from the spot where the foul occurred;
- (b) the goal-keeper is allowed to stop the ball with his legs within the penalty area, but may not kick it; and
- (c) the corner throw is taken from the centre.

APPENDIX E.

Water Polo.

Modified rules for school use.

Field of play.—Fifteen yards by 20 yards (approximately).

Goals.—Ten feet wide, 3 feet high.

Ball.—Football, size 4.

Caps.—Coloured cloth caps must be worn during competitions for identification.

Time.—Twelve minutes actual play, six minutes each way.

Teams.—Seven players each (for competition purposes only).
Goal-keeper, defence, and forwards (similar to net-ball).

Ordinary fouls.—(a) To hold or push off from goals, or from the bottom or banks during play.

(b) To hold the ball under the water.

(c) To punch the ball.

(d) To throw directly at goal when taking a free throw.

(e) To touch the ball with both hands at the same time.

(f) To change position after the referee has blown for a foul, and before the game re-starts.

(g) To use any part of the body to impede the movements of an opposing player.

Penalties.—(1) For (a) to (f) above—a free throw.

(2) For (g)—a penalty throw from four yards out.

NOTE—Other players may be within the four yards area.

Corners, etc.—If a ball goes out of play, a corner or a throw is awarded as in net-ball.

APPENDIX F.

Reproduction of Certificate.



Schools Physical Efficiency Certificate.

Group A, _____ Class.

THIS is to certify that.....
 a student of.....School,
 has successfully passed the tests indicated on the reverse, and has been
 placed in the.....Class.

Examiners: The.....

Inter-Schools Sport Association.

Physical Director, Government of Bengal.

....., 19

[Reverse.]

Group A.

(Over 62 inches height.)

STANDARD TESTS.

	1st Class.	2nd Class.	Actual performance.
100 yards Run ..	_____Seconds.	_____Seconds.	_____Seconds.
220 yards Run ..	_____Seconds.	_____Seconds.	_____Seconds.
High Jump ..	_____feet, _____inches.	_____feet, _____inches.	_____feet, _____inches
Long Jump ..	_____feet, _____inches.	_____feet, _____inches.	_____feet, _____inches.
Throwing Cricket Ball.	_____yards, _____feet.	_____yards, _____feet.	_____yards, _____feet.
Chinning the Bar ..	_____times.	_____times.	_____times.
Don Exercise ..	_____times.	_____times.	_____times.
Balihak Exercise ..	_____times.	_____times.	_____times.
100 yards Swim ..	_____min., _____sec.	_____min., _____sec.	_____min., _____sec.

APPENDIX G.

The House System.

To begin with, it should be clearly understood that the term "House System" does not refer to the houses or the homes of the students. It is the custom, of course, in many countries for teachers to maintain contracts with their students after school hours by building up friendly relationships with the parents or guardians, thus attempting to extend their educational influence beyond the limit of the curriculum and the boundaries of the school. Although, however, this is desirable in Bengal, the question is one of the school policy or of personal inclination, and is not necessarily associated with the House System as planned in this Province.

The first object of the House System is to develop initiative and self-reliance amongst students by handing over to them a measure of self-government. This is attained by distributing the authority, formerly tested in the Headmaster, amongst House Masters, Assistant House Masters, House Captains and Assistant House Captains. In practice, a well-run system is one where the Masters act as guides, and give the benefit of their more mature judgment to the Captains, who are selected for their special qualities of leadership, but as much as possible of the work of organising and conducting school activities is entrusted to the Captains.

Briefly, the system consists of the division of the schools as follows:—

- (a) Each class is divided into four groups—A, B, C, D.
- (b) Groups A from all classes are combined to form one House, groups B another, and so on. Each House receives a distinctive name, e.g., Tagore House, P. C. Roy House, Asutosh House, etc.
- (c) Four teachers are appointed as House Masters and four others Assistant House Masters, each with the following duties:—
 - (i) To exercise personal influence in caring for the welfare of the boys in his House.
 - (ii) To guide the House Captain in his work of maintaining good discipline, organising games and other recreational activities, etc., and to support the authority of the Captain.
 - (iii) To supervise as frequently as possible the activities of his House and give advice when necessary.
 - (iv) To co-operate with the Headmaster in maintaining a high general tone in the school, with particular reference to the improvement of attendance, punctuality, discipline, academic progress, recreation, health and moral welfare of the boys in his House.
- (d) Four boys of outstanding character are appointed as House Captains and four others as Vice-Captains, with the following duties:—
 - (i) To co-operate with the House Master in his work, but to take over, as far as possible, the actual application of the methods of improving progress.

- (ii) To know thoroughly the capacities and character of every boy in his House.
 - (iii) To foster the spirit of pride of House amongst the members, by giving attention to the progress of individuals and providing the necessary encouragement.
 - (iv) To organise recreational activities, outings or excursions on foot or by cycle, dramas, or any other means of giving the members a common interest.
 - (v) To control practices in games and sports and to select House representatives for competitions.
 - (vi) To co-operate with Masters and other Captains in organising inter-House competitions or any form of recreation.
 - (vii) To supervise closely the discipline, punctuality and general welfare of House members, and, where possible, to take such action independently as may seem necessary to improve these.
- (e) One School Captain, a boy of outstanding qualities as regards character, academic or athletic ability, and initiative, is appointed, whose duty it is to co-operate with the Headmaster and Physical Instructor in co-ordinating the work of the Houses. These three should be independent of interest in a particular House, so that they may control inter-House competitions or other activities. In all cases the Headmaster naturally is the supreme authority, while the Physical Instructor is the technical expert for physical education, but these two should regard the School Captain as their chief officer, support his authority so long as it is wisely used, and delegate to him any duties of which he is capable.
- (f) The Headmaster, Physical Instructor, House Masters and House Captains form a committee which should meet regularly to discuss all matters affecting the welfare of the school as a whole, while House affairs should be decided by the Master, Assistant Master, Captain, and Vice-Captain of each House.
- (g) Co-operation of House members is developed by encouraging juniors to take an interest in the competitions of their own seniors; and, conversely, by organising definite help and advice by seniors for junior boys in any of their recreations, games or sports.

Method of introduction.—The simplest method of introducing the House system for the first time in a school is as follows:—

- (a) Make the initial selection of House Masters and Assistant House Masters, choosing those teachers who have shown an interest in the pupils beyond the confines of the class-room.
- (b) Select the School Captain and House Captains, choosing boys of character and initiative who are likely to have a good influence.
- (c) Divide each class into two equal sections, one composed of those whose homes are some distance from the school. Sub-divide these sections to give four teams in a class, all approximately equal as regards mental and physical ability.

- (d) Combine corresponding teams of each class to form Houses, and prepare a register for each House, to be in the care of the House Master.
- (e) Select two boys from each House as candidates for Vice-Captains' posts, and allow members to vote for their own Vice-Captain.

Application to general work.—The House organisation may be used to conduct Inter-House competitions in attendance, punctuality, academic work, discipline, games, etc., by giving a monthly maximum of points, and making deductions for every absence, late arrival, mistake, or breach of school rules. The Headmaster and the Physical Instructor, who are not attached to a particular House, should keep the records of these.

Each House Master and Assistant House Master should take a personal interest in the development and progress of the boys in his own House, and work through the House Captain and Vice-Captain. The House Master and Captain may attend particularly to the Seniors (Classes X to VII), and the Assistant House Master and the Vice-Captain to the Juniors.

Application to physical education.—In routine physical training lessons during school hours the members of each House in any one class form a team. Each team forms one file for free-hand exercises, or a group for the practice of gymnastics, athletics, small area games, etc. Weekly or monthly competitions within a class may be carried on, and the Physical Instructor keeps records of these.

The organisation of after-school games should follow the House Plan. The following suggestions are suitable for a school of 240 boys, but may be adopted for use in larger schools:—

- (a) Divide the Houses into Seniors (Classes X to VII) and Juniors (Classes VI to III).
- (b) Allot certain days for Houses.
- (c) Entrust House Masters and Captains with the selection of a First and Second House Team from the Seniors for the appropriate seasonal major games, and Third and Fourth teams from the Juniors for minor games.
- (d) Organise practices on the following lines:—

Monday—4 to 4-45 p.m.

House A First v. House B First (Football, Net-Ball, etc.).
House A Third v. House B Third (Dodge Ball, Relay, etc.).

4-45 to 5-30 p.m.

House C First v. House D First (Football, Net-Ball, etc.).
House C Third v. House D Third (Dodge Ball, Relay, etc.).

Tuesday—4 to 4-45 p.m.

House A Second v. House B Second.
House A Fourth v. House B Fourth.

4-45 to 5 p.m.

House C Second *v.* House D Second.

House C Fourth *v.* House Fourth.

NOTE.—Boys of Houses A and B are those who live at some distance from the school. They should, therefore, play daily at 4 p.m. Houses C and D may go home for tiffin, and return at 4-45 p.m.

In this way groups of 88 boys are employed on alternate days.

- (e) Arrange special practice *every day* in suitable minor games for the 24 boys who are not good enough to be selected for teams, in order to improve their standard.
- (f) Allot a maximum of marks to each House for attendance at games, deduct marks for every absence *for any reason whatever*, and calculate the winning House at the end of each month. (If House Masters and Captains use their influence to bring all their members out, this method will be found more effective than any system of fining.)
- (g) Arrange fortnightly or monthly competitions between the House teams in appropriate activities, and award points. Give the same points to Junior teams as to Senior, so that the latter may take a close interest in the progress and success of their Juniors.
- (h) Entrust House Captains and Vice-Captains, and also Team Captains, with certain duties in connection with selection, coaching, supervision, and refereeing of teams during practice games.

Application to voluntary activities.—The House System may be employed as a means of improving voluntary activities, such as Scouting or Bratachari. For example, where there is a Scout Troop, each House should supply the members of one patrol. This provides a strong incentive, so long as the resulting rivalry is controlled by the Scout-master.

The same principle may be applied in the case of Bratachari and Junior Red Cross, where group formations are used for convenience in organisation and teaching.

There are other voluntary activities, such as outings, cycle tours, camps, entertainments, social service work, musical practice, etc., in which the House Organisation is valuable. House Captains and Vice-Captains should be encouraged to arrange these on their own initiative and to enlist the help of members of their House in organising such things.

APPENDIX H.

Circular No. 23, dated Calcutta, the 9th June 1928.

From—H. E. Stapleton, Esq., M.A., B.Sc. (Oxon.), F.A.S.B., Director of Public Instruction, Bengal (offg.),

To—All Divisional Inspectors of Schools (with spare copies for Second, Assistant, District, Subdivisional and Sub-Inspectors of Schools and Headmasters of all High Schools, Middle English Schools and Madrasahs under their control); Principals of Presidency and Sanskrit Colleges; Principals of the David Hare Training College, Calcutta, and the Teachers' Training College, Dacca; the Principal, Calcutta Madrasah (with spare copies for the Headmasters of high schools under their control); the Principal, Islamic Intermediate College, Dacca; the Principal Chittagong Madrasah, and the Superintendent, Hooghly Madrasah.

I have the honour to refer to the previous correspondence in connection with the Resolution of the Bengal Legislative Council carried on the 22nd February 1926 to the effect that physical training shall be made compulsory for boys between the ages of 12 and 18 in High schools and in Madrasahs and Maktabas. I now address you with a view to informing you of the action which it is proposed should be taken as a result of the Resolution.

2. Probably from next November a whole-time Organiser and Administrator of Physical Education will be appointed, who will be styled Physical Director. He will possess modern knowledge and considerable experience of the organisation of physical training in the British Isles; and as he will have to advise Government regarding the methods to be adopted in coping with similar problems in Bengal, the bulk of the detailed work of formulating definite proposals will be left over for this new officer. The purpose of the present communication is to suggest that preliminary action should be taken to prepare the way for him, so that he may be in a position to start work under the most favourable auspices.

3. To begin with, I would request you to impress upon the schools under your control the necessity of shouldering responsibility in the matter of physical training of boys within the limits set by the environment and circumstances of each school. The duty of teachers is not confined to the preparation of boys for examinations. In the interests of the health and physical development of the students of Bengal, school authorities should introduce a suitable programme of hygiene and physical education for all boys reading in their institutions. There is no reason why there should be any further delay in making a beginning in this direction at least so far as the inexorable limitation of finance may permit. The University have accepted this principle, as in their circular No. 232S., dated the 9th August 1925, they have stated clearly that if voluntary arrangements are not made in High schools for physical education and games, it will be necessary ultimately to insist on each Matriculation candidate furnishing a certificate that he has actually undergone a course of physical education.

4. It is impossible to deal with physical education without, at the same time, taking note of the necessity of providing a sound basis of hygienic life. Under health education we are concerned with medical

supervision, and health instruction in the elements of physiology, hygiene and sanitation, the primary object of which is to guide the individual in the direction of more wholesome living. Physical education, on the other hand, consists in the adequate knowledge of and participation in various bodily activities, such as walking, swimming, etc., as well as organised games.

5. While I do not think that anything in the way of medical examination, or any elaborate organisation for physical education, is at present financially possible in Primary schools, the situation becomes easier in schools of a higher grade. In Middle Vernacular and Middle English schools as well as Junior Madrasahs, drill is already compulsory. In addition to this, it should be intimated to all Head Masters of Secondary schools and Madrasahs that, so far as space allows, they are expected to make a beginning by arranging games for their pupils to be played and supervised in the late afternoon at least twice a week, in which every boy should take part unless excused for any reason that seems valid to the Head Master. Such games must be inexpensive and demand little space; for example, Hide-and-Seek, *Hadu-du-du* and other Indian or Scout games. A number of games suitable for limited play-ground areas are mentioned at the end of the introduction to the Government 1928 Physical Training Syllabus and described in the Departmental Drill Book. If funds permit and a suitable play-ground is available, Basket-ball, Volley-ball, Football and Hockey may be played. These schools should also be encouraged to start special Sports and Health funds. Where one does not exist, a special fee may be levied on each boy, which will be supplemented by grants from the department as soon as the funds, specially earmarked for this purpose, are sanctioned by the Legislative Council. The amount of "Physical" grant enjoyed by any particular school will depend upon the number of schools qualifying for the grants and other circumstances. Inspecting officers should insist on these schools following the departmental syllabus for physical training and organising games for all their pupils.

6. In order to ensure efficient instruction for games and physical activities in Middle schools, it will be necessary to pass as many as possible of the Subdivisional inspecting staff through a brief course in physical training. It will also be necessary to pass one member of the staff of each *Guru-Training* School through an improved physical training course with a view to the improvement of the training of the teachers in this subject. Sub-Inspectors of schools may also have to be trained as far as possible. Arrangements for the training of these officers will be made at suitable centres to be announced by the Physical Director as soon as the necessary budget provision is made.

7. An arrangement should be made in every aided high school (where such an arrangement does not already exist), by which some member or members of the staff may be definitely assigned the duty of assisting in the work of physical instruction, e.g., in the organisation and supervision of games after ordinary school hours, from (say) 4 p.m. The assumption of this responsibility in its fullest form involves the following:—

- (i) Some degree of medical inspection.
- (ii) The presence on the staff of a trained, intelligent and well-educated Physical Instructor, working in co-operation with the Medical Officer.

- (iii) Organisation of physical activities within the school.
- (iv) Finance for the support of those agencies.

8. High schools will ultimately have to make arrangements for at least one annual medical inspection on the results of which invalid boys will be exempted from drill or games, or directed to engage in them in a modified degree, so as to comply with such physical or health directions as the examination may disclose as essential in the interest of their health. According to circumstances or facilities available, more than one such examination in a year may be arranged in some schools. Detailed instructions regarding this will be issued later. A scheme for the health examination of boys in Government and Government aided schools in Calcutta has been sanctioned by Government and will come into operation at once (*vide* this office Nos. 4349-4354G., dated the 26th April 1928).

9. It is expected that each aided High school will also ultimately employ at least one teacher who possesses a certificate of training from a recognised school of physical education, *e.g.*, the Youn Men's Christian Association School at Madras. Schools which cannot recruit specially a man already qualified should depute a suitable teacher for a short period of training at the cost of Government at a recognised centre. This Physical Instructor, or teacher trained as above, should be in charge of the drill, general supervision and organisation of games, athletic and aquatic activities and competitions in his school. The Physical Instructor should be on duty throughout the afternoon for apparatus work and general supervision, and he should be excused attendance in the school for one or two periods in the forenoon. He will be responsible for having the necessary appliances and grounds ready for use, and should be assisted by one or two ordinary teachers, placed on duty by turns, who will call the roll to ensure attendance and help the Physical Instructor in maintaining discipline. Each class should have a Captain and a Vice-Captain to help in the organisation, *e.g.*, arranging of referees, linesmen, etc.

10. Each boy in a High school, unless exempted by the Medical Officer, should, in addition to drill prescribed by the syllabus (which must be taught not only in classes III—VIII, but also classes IX and X), be called upon to take physical exercise in the form of organized games or athletics at a convenient time after ordinary school hours for at least half an hour twice a week. As regards drill, the upper four classes should have not less than two lessons, and the lower four classes three. The students should also be divided into batch for the purpose of afternoon games. The number of such batches and the strength of each will obviously depend on the resources of the school in playing grounds, athletic gear and apparatus, but every attempt should be made to utilise all available resources and to devise such forms of exercises, *e.g.*, Indian ground *Don*, as would compensate for the lack of equipment available, so that every boy may take the required amount of exercise. The school session should be divided into three terms for games: (1) from after the Puja vacation to January, (2) from February to May and (3) from June to September. In the first term, indigenous games, Captain-ball, Volley-ball, Basket-ball, Badminton and Cricket for two periods each of half an hour should be arranged; in the second, Hockey and some of the games mentioned above; while in the third period Football would be suitable. In the second and third terms it would be easy to arrange for three game

periods of half an hour each. Swimming (with adequate arrangements for safety) and rowing where boats are available, might also be attempted. Mass dumb-bell and Indian club exercises could also be taken up by many schools during the rains, the school verandah being used, when required, for exercises with dumb-bells and Indian clubs, if no gymnasium is at present available. Pupils having game periods in the afternoon should be encouraged to bring some tiffin with them to school; and, unless medically exempted, no boy should be allowed to absent himself unless he comes from a great distance from the school and the walking involved constitutes, in the opinion of the Head Master, a sufficient exercise. A beginning must also be made by class masters towards the permanent maintenance of a physical exercise chart for each class which should be forwarded at frequent intervals to the Head Master so that he may know that each boy is taking the necessary exercise. When boys fall short of the required amount of exercise, the Head Master will take such steps as he may consider appropriate.

11. Every effort should be made by inspecting officers during the next few months to pave the way for a rapid advance in physical education throughout the province as soon as the new Physical Director arrives. During inspections, special attention should be paid to the formulation of draft schemes, while the special attention of school authorities should be drawn to the fact that both the Education Department and the University intend henceforward to encourage the promotion of physical education by every means that lies in their powers.

APPENDIX I.

Circular No. 1, dated Calcutta, the 29th January 1930.

From—H. E. Stapleton, Esq., M.A., B.Sc. (Oxon.), F.A.S.B.,
Director of Public Instruction, Bengal (offg.),

To—All Divisional Inspectors of Schools (with spare copies for Second, Assistant, District, Subdivisional and Sub-Inspectors of Schools, and Headmasters of all High Schools, Middle English Schools and Madrasahs under their control); Principals of Presidency and Sanskrit Colleges; Principals of the David Hare Training College, Calcutta, and the Teachers' Training College, Dacca; the Principal, Calcutta Madrasah (with spare copies for the Headmasters of High Schools under their control); the Principal, Islamic Intermediate College, Dacca; the Principal, Chittagong Madrasah, and the Superintendent, Hooghly Madrasah.

I have the honour to refer to the correspondence in connection with the Resolution of the Bengal Legislative Council of 22nd February 1926 to the effect that physical education shall be made a compulsory subject for boys between 12 and 18 years of age in educational institutions.

2. The wishes of Government in this matter were fully explained in Circular No. 23 of the Director of Public Instruction, dated the 9th June 1928, and methods for the introduction of physical education were recommended therein.

3. I have now to request that information be collected at the end of next March and forwarded to this office as soon as possible thereafter showing the extent to which the Resolution has been carried out, especially in the top four classes of High Schools, and a report submitted regarding steps which have been taken within the last three years to introduce physical training for all students. Particulars of the following should be given in the case of each Government and aided High School and Senior Madrasah and each aided Middle English School and Junior Madrasah:—

- (a) The number of periods per week devoted to physical exercises and to games by each class (including the two senior classes) together with a statement showing whether physical education is compulsory or voluntary.
- (b) In the case of each Government and aided High School or Senior Madrasah a routine showing at what hours students are taught and how classes are organised so that all boys make take part.
- (c) The nature of the physical training taught—whether according to prescribed syllabus, and, if not, the types of activities taught. (If scout troops or cub packs exist this should be noted.)
- (d) The salary, qualifications, designation and other duties of the teacher (or teachers) in charge of physical education.
- (e) The amount of sports fee levied from each student, and the total sum realised from such fees during each of the last three years.
- (f) Government grants, received during each year since 1926-27 for physical education purposes.
- (g) Methods of control and expenditure of all moneys received for physical education purposes, whether from fees or grants.
- (h) Apparatus possessed by the school for games and exercises, and size of playing spaces for games.
- (i) Whether in the case of High Schools and Senior Madrasahs the school is willing to depute a suitable teacher for a full course of training in physical education, and in the case of other schools, which schools are willing to depute a teacher for a short course of training, provided grants are made to assist the school in doing so.
- (j) Proposals which have been made and difficulties which have arisen in connection with the employment of a qualified instructor.
- (k) Special circumstances which have retarded the development of physical education for all students.
- (l) Proposals for the near future.

4. The progress of physical education in the schools of your division should receive special attention in future Annual Reports. The results of the enquiries in the case of the present reference should be summarised in your next Report, each group of schools being dealt with separately. A separate section should also be devoted to the state of physical education in Primary Schools and Maktabas.

APPENDIX J.

Circular No. 18, dated Calcutta, the 27th June 1930.

From—H. E. Stapleton, Esq., M.A., B.Sc. (Oxon.), F.A.S.B.,
Director of Public Instruction, Bengal (offg.),

To—All Divisional Inspectors of Schools (with spare copies for Second, Assistant, District, Subdivisional and Sub-Inspectors of Schools, and Headmasters of all High Schools, Middle English Schools and Madrasahs under their control); Principals of Presidency and Sanskrit Colleges; Principals of the David Hare Training College, Calcutta, and the Teachers' Training College, Dacca; the Principal, Calcutta Madrasah (with spare copies for the Headmasters of High Schools under their control); the Principal, Islamic Intermediate College, Dacca; the Principal, Chittagong Madrasah, and the Superintendent, Hooghly Madrasah.

I have the honour to refer to previous correspondence regarding physical education in schools, and in particular to my Circular No. 23, dated 9th June 1928. In that circular certain recommendations were made regarding the amount of time that should be devoted to this subject, the types of activities to be included, and methods of organisation in schools. Since the issue of that circular sufficient time has elapsed to give schools an opportunity to act upon its recommendations, and it now appears from observation of the work in schools that further guidance is necessary.

2. In the first place, the effective teaching of this subject depends entirely upon the appointment of a teacher with a knowledge of physical education, and with some training in the methods of teaching it to school students. An alternative to the appointment of such a teacher is the deputation of a class teacher for training, and a number of short training courses were therefore organised by Government for teachers during the past few years. There are, however, many schools which have not taken advantage of the arrangements made, and still depend upon the services of untrained drill masters. In order, therefore, to emphasise the need for suitable teachers in all schools, it is intended after 1931-32 to give physical education grants only to those schools which have taken steps to ensure efficient teaching of the subject by trained teachers.

3. With regard to the standard to efficiency required of physical instructors or drill masters, the following points should be noted. Physical education means more than the teaching of a few stereotyped drill exercises; it should also concern itself with major games (*e.g.*, football, hockey, etc.), minor or small area-games (such as scout games, indigenous games, and others which may be found described in a number of books on school games), gymnastics on apparatus, swimming, etc. An efficient teacher of physical education should therefore know something of all types of activity, and be able to teach them. At the same time it is desirable that he should know enough about the laws of health to be able to instruct boys in Hygiene and to advise them upon simple matters connected with their physical welfare.

4. Keeping in view these points I have to state that it is the ultimate desire of the department to see in all high schools physical

instructors with a good standard of general education and a training of at least one academic year in physical education. At present, however, this cannot be expected of all schools, and as an alternative I have to suggest that schools should pay particular attention to the activities most suitable for work with large numbers of boys on a comparatively small area, and with the minimum of apparatus. These activities are physical exercises and minor games.

5. With regard to physical exercises, guidance is provided by the syllabus recently issued by this department, and by the drill book, published by Government and sold at a cost of annas 8. In this connection, I wish to emphasise the need for adherence to the principle upon which these publications is based—that of providing progression from one set of exercise to the next as time goes on. Too often the exercises taught remain unvaried over a long period, resulting in automatic teaching and response.

6. Minor games should be included in every physical exercise lesson, and should occupy half the period. They provide vigorous activity of a more recreational type than free-hand exercises. At the same time they are easily organised and taught, and little time is wasted in preliminaries. Suitable game and athletic activities, clearly explained and easily understood, are to be found in the following books:—

	Rs.	A.
(1) Scouting games (Boy Scout Association, Bengal)	...	1 2
(2) Rules of Games and Sports—		
H. C. Buck (Association Press)	...	1 0
(3) Suggestions in regard to games		
(English Board of Education)	...	0 8
(4) Handbook of the Bengal Olympic Association		
(25, Chowringhee, Calcutta)	...	0 8

7. One of the obstacles to the effective teaching of physical exercises is the practice of attempting to teach entirely in English. With the exception of a few words, suitable equivalents can be found in Bengali and Urdu for most words of command, while ordinary explanations may easily be given in the vernacular. I therefore recommend that physical instructors and drill masters should teach in Bengali, or in Urdu in Muhammadan institutions. At first the change may not be easy for the teachers, but the good results will soon be apparent. Ease and fluency of teaching, with quicker understanding and a more spontaneous and vigorous response, will do much to make the lesson more interesting and more effective from both the mental and the physical point of view.

8. In all schools the need for a time-table, showing clearly the weekly physical training routine, has not yet been recognised. Such a time-table I consider to be essential if the physical training of all classes is to be put on a systematic basis. Where after-school games are organised, the method of organisation and the times and the games at which various groups will play should also be shown.

9. One of the problems connected with physical activity during the hot weather and in the rains is being met in some schools by the erection

of sheds. It seems desirable to indicate in general terms the best type of shed. It should be suitable for simultaneous exercises or games with a number of boys, and should therefore be not less than 40 feet by 20 feet. The best size is 60' x 30'. To allow minor games to be played, the height of the roof or lowest horizontal girder should be not less than 12 feet from the floor. In its simplest form a roof erected on pillars is all that is required, but additional protection from sun or rain may be provided by erecting a half wall of wooden slats on the southern and eastern sides reaching from the roof to about 5 to 6 feet from the floor. A concrete floor is better than one of hard mud or sand, which is likely to become sodden during the rains. So far as funds allow, financial assistance will be given to schools desiring to erect sheds of this type, provided the plans and estimates are first submitted to this department.

10. In the organisation of games some difficulty is often experienced owing to lack of playing space. In many schools the difficulty may be partly solved by using the roofs of the school buildings, many of these being of a size suitable for physical exercises and minor games. In these cases where a parapet does not exist it should be possible to erect a light iron railing to prevent accidents. Where a school is considering proposals for the purchase of playing fields the following measurements may be of assistance:—

- (a) Football or Hockey field—110 x 60 yards.
- (b) Basket Ball Court—25 x 15 yards.
- (c) Volley Ball Court—20 x 10 yards.
- (d) Space for indigenous and other minor games, athletic practise, etc.—40 x 15 yards.

A total area measuring 120 x 80 yards should be sufficient to accommodate players in the above games (including two Volley Ball groups) to the number of 100 or more at once. By dividing the students into suitable groups and having two sessions each evening, it should be possible for nearly all schools to give each boy an opportunity to play games after school at least twice weekly. The department will be prepared to consider applications for grants in aid to assist in the purchase and levelling of playing fields.

11. One of the greatest difficulties in organising school games is the variability found in the physical development of boys in the same school class. If, however, games are organised after school hours, there is no need to group the students according to classes. Grouping according to heights and weights will give much more satisfactory results and will enable the games teacher to select suitable activities much more easily.

12. Regarding apparatus for games, I suggest the increased use of the bamboo, in cases where schools find difficulty in purchasing the necessary articles. Posts for Basket Ball and Volley Ball, and the smaller apparatus for games of the cricket type, for hurdles, for jumping stands, etc., may be made from bamboo at a very small cost. A few footballs and some inexpensive rubber balls is all the apparatus required in addition.

13. The collection of fees for a sports or health fund is now a fairly general practice. The amounts levied vary considerably, but I consider

that Re. 1 per annum for the upper four classes and annas 8 for the lower four classes is not too large a sum, especially if collected in monthly instalments throughout the year. It is, however, essential that every boy should receive some return for the money he pays, and the organisation of games for all is therefore necessary. At present it is not unusual to find schools which spend most of the revenue for sports on the upkeep of one or two football teams, paying the uniforms, fares, tiffins, and prizes of perhaps eleven or twenty-two boys, and providing no facilities for the games of other boys. The sports fund, if wisely spent, should be enough to buy enough simple apparatus for the games of all, and expenditure of the fund for the benefit of specially selected boys only will, in future, be looked upon as inadmissible, unless the needs of the great majority have previously been attended to.

14. Control of the sports fund is very often in the hands of the Headmaster and Games Secretary, and the fund is looked upon as existing for games only. If, however, it is realised that the fund is one to be spent for the physical development of boys in every possible way, the officials will perhaps not hesitate to use the money for the purchase of gymnastic, athletic, and other apparatus and for games books as well as for games accessories. In order to encourage the use of the sports fund to the best advantage, as explained in this and the previous paragraph, it will be made a general rule in the future that grants for physical education purposes will only be made to schools which keep a systematic account of the expenditure of the sports fund, and can show that efforts have been made to spend the money on apparatus, etc., for general use by all students.

15. An important aspect of the physical education of boys is their examination by a qualified medical man to find what defects are present. This work, being part of a complete scheme of physical education, should be started where possible. If the sports fund is looked upon as a health fund, schools which think it desirable to use part of it to pay a medical examiner may do so. It is possible that certain financial assistance may be given for this purpose, though no recurring grants can be awarded.

16. During the hot weather it has become the practice in many schools to sit from 6-15 a.m. until about 10-30 a.m. I recommend this course to schools which have not already adopted it, as it is likely that benefit both to the health of the boys and to the school work will result. Physical training programmes can then be arranged in the evenings, when the heat of the day is over. Naturally, schools with a widely scattered school population cannot expect boys to return after 4 p.m., but by arranging the ordinary physical training lesson in the morning and by organising local teams in suitable centres for evening games (as has already been done in many schools) adequate provision for systematic exercise can be made.

17. The difficulties connected with the introduction of a tiffin scheme are well known. Judging, however, by the reports of Head Masters, it would seem that many boys are in the habit of purchasing sweets, etc., from vendors at the gates. It should, therefore, be possible to regulate the types of food sold by these vendors, or to provide for the sale of suitable food on the school premises. This would be a step in the right direction, and would naturally lead to the commencement of a tiffin scheme on a small scale for the benefit of those boys whose guardians are agreeable and can afford to pay a small fee. Tiffin is especially

important for students who take part in games immediately after school hours, and, since no boy is required to play more than twice a week, it appears that much could be done at a very small cost to regulate the supply to the games group concerned each day. I therefore strongly recommend that a compulsory tiffin supply scheme should be started in school, for groups which are to play games after school, and, where this is not found possible, that a voluntary scheme on the same lines should be begun.

18. In conclusion, I have to state that during the current year certain sums of money will be available for distribution in aid of physical education, and that, in deciding upon grants to schools, the matters discussed above will be taken into consideration. It is essential that everything possible should be done to raise the physical standard of school students, and close attention should be paid to the physical welfare of all, not of the few.

APPENDIX K.

Suggestions for Daily Assembly in Secondary Schools.

1. At present, in most High and Middle Schools, there are few occasions when all the students and teachers meet together as a body, and a most valuable means of building up corporate spirit is thereby lost. It seems desirable from many points of view to suggest to schools the main benefits of having a daily assembly of the whole schools, to describe methods of arranging the classes, and to give a specimen programme to be followed.

2. The following are some of the advantages of this scheme:—

- (a) The Headmaster is provided with an opportunity of saying a few words once or twice weekly to the boys on subjects such as school arrangements; discipline; loyalty to the school, to teachers, or to class-mates; the need for cleanliness and neatness of person and surroundings; successes obtained by individuals, teams, or classes; defects in behaviour; or any other subject connected with the welfare and progress of the school. Provided these talks are kept short and deal concisely with matters of immediate interest to the school in general, the result should be to give staff and students a healthy conception of the subjects of school life beyond the actual teaching and learning of class-room subjects, and let them feel that they are individually responsible for the good name of the school. The Headmaster should, of course, be present at all assemblies, whether or not he wishes to address the students.
- (b) It is possible to introduce daily prayers or religious observances of a kind appropriate to the needs of the pupils, provided that the Headmaster is satisfied that he can avoid objections. Either as an addition or as an alternative, a suitable song may be selected, to be sung by all students in unison.
- (c) Where the "House" system has been introduced, the Houses should be distinct from each other. In this case, the daily assembly is a means of identifying every boy with the others in his own house. The sight of his House Masters and Captains in a position of authority gives each member a feeling that he is part of a definite body, with its own leaders and helps him to develop that sense of co-operation without which the House System is merely a paper organisation.

Further, the identification of Houses at regular assemblies lends added interest to the rivalry of Houses in games and other activities, and this is strengthened by announcements and judicious remarks of praise or encouragement by the Headmaster.

- (d) A few physical exercises in mass formation may be taught by the school physical instructor, with the object of improving the posture and general smartness of all pupils. No attempt should be made to introduce exercises which require a change of formation (*e.g.*, running or jumping); but, for the sake of discipline and sense of unity, exactness of movement on the part of individuals and simultaneous performance by all students should be insisted upon.

- (e) Classes should march, in succession, under class teachers, to their class-rooms. The method of doing so should be formal, in order further to develop discipline, to cultivate a sense of rhythm, and to improve the smartness of all students.
- (f) If the school has a drummer or a band, the physical exercises and the marching to class-rooms should be done to music. Paragraph 6 explains how bands may be developed.

3. The following is a method of arranging classes in a school where the House system has been introduced, but it may be easily adapted for use in other schools. A school of 240 boys, with ten staff members and four Houses, has been used for the diagram.

		SV.			
		HV.	HV.	HV.	HV.
0	Class X	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx 0
	Class IX	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Class VIII	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Class VII	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Class VI	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Class V	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Class IV	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
	Class III	.. xxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx
		X Hc	X Hc	X Hc	X Hc
	(House "A")	(House "B")	(House "C")	(House "D")	
		† † *			
	† Headmaster.		‡ Physical Instructor.		
	X House Master.		0 Masters.		
	* School Captain.		SV School Vice-Captain.		
	Hc House Captain.		HV House Vice-Captain.		

4. The daily programme should be as follows:—

- (a) Five minutes before opening the school after the recess all staff and students should be in the compound. On a whistle signal all boys run smartly to their places and stand at ease, in silence. (After a few days' practice boys will find their places without difficulty). House Masters quickly inspect the neatness of their boys, and see that all are wearing their House badges or colours.
- (b) The Headmaster addresses the school, or conducts the religious ceremony, or asks the instructor to begin the exercises.
- (c) The instructor teaches the following exercises, or any others that he may select. The School Captain performs the exercises, facing the students, who adopt the time and rhythm set by him.

- (i) Open ranks. (All even numbers step back two short paces.)
 - (ii) Arms raise sideways; head bend backward with arms turning; head raise with arms turning (palms downward); arms lower. (Repeat three or four times.)
 - (iii) Arms bend; arms stretch in various directions; arms downward stretch to finish.
 - (iv) Simple *don* exercises.
 - (v) Hips grasp; heels raise and knees full bend; knees stretch and heels lower; hands down.
 - (vi) Close ranks. (Even numbers step forward to original places.)
- (d) Each master walks to his own class, prepared to turn it to the right or left and march with it to its class-room. The classes march off in succession, Class III first. The rhythm of the march is given by the drummer or the school band.

5. The above method of arranging the daily assembly may lead to the following developments:—

- (a) Inter-House competitions, as suggested in Appendix “F” of the Education Department booklet “Suggestions for the improvement of Physical Education in Schools” may include competitions in punctuality (late-comers are noticed at once), smartness and discipline.
- (b) Mass demonstrations of marching and physical exercises at school functions such as prize days, sports days, or at annual demonstrations of school work to guardians and guests.
- (c) Combined demonstrations, with other schools, of marching and exercises. For example, at competitions organised by a local Inter-School Sports Association, all pupils of schools near the sports field, and representatives of more distant schools, may march to the field and there show mass physical exercises as part of the day’s programme. (Detailed methods of organisation will be suggested by the Physical Director on application.)

The advantage of this suggestion is that large numbers of boys, instead of only competitors, are given a personal interest in the function.

- (d) For public functions each school may have its school colours and motto shown on a banner, borne by the school captain.

6. *School Bands*.—The development of rhythmical and musical training is a desirable addition to the education scheme, besides providing students with an interesting and instructive form of recreation. A beginning may be made without difficulty by selecting and teaching songs that have a definite rhythm and can be sung with some vigour. With students of the Government Physical Training Centre and Ballygunge School, Calcutta, the songs “হও ধরমেতে বীর, হও করমেতে বীর” and “কুঞ্জে কুঞ্জে পুঞ্জে পুঞ্জে” have been tried with great success. These songs, and others of a similar nature will prove an interesting addition to the programme of the daily assembly, and should be sung by the whole school.

The next step is to introduce the practice of instrumental music. First, of course, the instruments must be cheap, and secondly, they must be easily learned. These requirements are satisfied by selecting bamboo pipes, obtainable from Calcutta firms at not more than four annas each; Harmonicas, or mouth organs, of German make, at Rs. 2 each; and *dholes* at Rs. 4 each. Instruments for a band consisting of ten pipes, ten harmonicas, and two *dholes* may, therefore, be obtained at a total cost of Rs. 30-8; or alternatively, twenty pipes and two *dholes* at Rs. 13. Care should naturally be taken to select instruments all on the same key.

Utilising these instruments, an experimental band was formed in the Physical Training Centre, and it was found that after four months, with one formal practice weekly, and voluntary individual practice at other times, four special tunes were thoroughly learned as band music, besides a variety of other tunes practised by members individually. The marching tunes learned were “হও ধরমেতে ধীর, হও করমেতে বীর” and “কুঞ্জে কুঞ্জে পুঞ্জে পুঞ্জে” and those used as accompaniments to songs were “গ্রাম ছাড়া ঐ রাজা মারি পথ” and “ধন ধান্ত পুষ্প ভরা”

In order that all members might learn the tunes without variations, a simple system of writing was employed. The keynote was termed No. 1, and others in order running upward were 2, 3, 4, etc. For the pipes the scale was therefore—

1 2 3 4 5 6 7 1' 2' 3' 4' 5' 6' 7'

On the Harmonicas the scale was—

5, 6, 7, 1 2 3 4 5 6 7 1' 2' 3' 4' 5'

This experiment shows that it is within the power of any school, having a teacher with musical aptitude (but not necessarily highly skilled), to develop a band or orchestra which will cultivate the rhythmic and musical ability of the students in general, and, at the same time, give an unlimited number of instrumentalists a pleasurable and instructive hobby.

7. As will be seen from these suggestions the aim of the daily school assembly scheme is three-fold—

- (i) To identify each boy personally with the welfare of his House and his School.
- (ii) To develop his pride in the institution of which he is a member, by letting him take part in functions at which other schools are present.
- (iii) To unite the schools of an area by organising combined functions.

The scheme is a further extension of the principles adopted in organising the “House System,” and in developing local and central Inter-School Sports Associations, as described in Appendix “F” and on pages 18 and 19 of “Suggestions for the Improvement of Physical Education.”

8. It is hoped that Headmasters will carefully consider the suggestions made above, adapt them where necessary, and introduce in their schools a scheme on similar lines.

APPENDIX L.

The work and functions of a District Organiser of Physical Education.

[Sanctioned in Government order No. 46 Edn., dated the 9th January 1939.]

1. Functions.—The functions of the Organisers will be two-fold; to assist and develop the subject of Physical Education in all grades of schools, and to promote and extend the influence of organisations for youths. They will do so by the following methods:—

(a) In Colleges and in Training, High, Middle and Primary Schools, Madrasahs, Maktabas, etc., they will visit, demonstrate, teach, and assist with organisation (e.g., house system, daily assembly, Inter-School Sports, Scouts, Bratachari, Junior Red-Cross and other extra curricular activities); inspect aided institutions on behalf of the Education Department, and send reports to the Physical Director and Divisional Inspectors of Schools; conduct short training courses for teachers from all grades of schools; assist in the introduction of tiffin schemes; co-operate with school medical officers; and undertake any other work concerned with the physical welfare of school children;

(b) *General Youth Welfare.*—They will act as Secretaries to the District Youth Welfare Councils; visit existing clubs, and assist in improving their organisation and in extending the scope of their activities; advise the Council regarding the best methods of extending its work; assist in the establishment of new clubs, and in particular of four model clubs in each district; encourage the formation of “old students” clubs attached to schools; report to the Council and to the Physical Director upon the work and progress of the clubs and their eligibility for grants-in-aid; assist in the development of district branches of voluntary organisations of all-Bengal scope such as Inter-school Sports, Scouts, Bratachari, Junior Red-Cross, Bengal Olympic Association, Bengal Basket Ball Association, Bengal Volley Ball Association, Amateur Boxing Federation, Bengal Amateur Swimming Association, St. John Ambulance Association, etc.; organise public demonstrations and other propaganda in favour of the extension of all these activities.

2. Headquarters of the Organiser.—The Organiser’s headquarters will be in the office of the District Inspector of Schools who will provide him with a table and chair and facilities to carry on clerical work connected with tours and reports.

3. Relationship to other officers of Government.—(a) The Organiser will be under the general control of the Physical Director who will be kept in close touch with his activities through monthly reports submitted not later than the fifth day of each month.

(b) As regards High Schools the Organiser will co-operate with the Divisional Inspector of Schools by submitting to him not later than the 15th of each month a copy of his proposed programme of work for the following month, showing tours, schools and clubs to be visited, training courses to be organised, etc. The Inspector of Schools may

revise this programme if he considers it essential that certain High Schools require urgent attention, and he will sanction all tours. If sanction is not received before the last day of the month, the Organiser may proceed with his programme, with the sanction of the District Inspector of Schools.

When sanctioning tours the Divisional Inspector of Schools will issue letters to all High Schools notifying them of the visit of the Organiser, and requesting the Headmasters to co-operate in every way.

(c) As regards visits and training courses for Middle and Primary Schools, the Organiser will consult with the District Inspector of Schools and work out a programme with his assistance.

(d) As regards work with clubs and similar organisations, the Organiser will consult the District Youth Welfare Council, or the District Magistrate. As a general rule, visits to clubs will be arranged to coincide with school tours sanctioned by the Divisional Inspector of Schools, but special tours may be arranged in order to carry on work with clubs, if this is considered necessary.

(e) Usually, the planning of tours by the Organiser to suit the requirements of all branches of his work will be arranged by consulting the District Magistrate and District Inspector of Schools before forwarding the tour programme to the Divisional Inspector of Schools. In cases where there is conflict of opinion, the case should be communicated to the Physical Director for a decision.

4. **Salary Bills.**—The salary bills of Organisers will be countersigned by the District Inspector of Schools.

5. **Travelling allotments.**—Travelling allowance bills will be countersigned by the Divisional Inspectors of Schools.

6. **Contingencies.**—Organisers are authorised to indent for stationery, stamps and forms through the District Inspectors of Schools, and to meet the costs from their contingent grants.

Bills for other contingencies, such as apparatus and incidentals for training courses will be countersigned by the District Inspectors of Schools.

7. District Organisers will have authority to select their own peons. Formal orders of appointment will be issued by the Physical Director on the recommendation of the District Organisers.

8. **District Organisers, Calcutta and the 24-Parganas.**—They will work under the direct control of the Physical Director, who will supervise their activities, countersign their bills, etc.

9. **Diaries and reports.**—Organisers will keep a detailed diary of their activities from day to day and will submit these for inspection by the District Magistrate, the Divisional Inspector of Schools, or the Physical Director when requested to do so. They will also complete inspection forms as supplied by the Physical Director showing details of the work in all institutions visited, and forward one copy to each institution concerned.

They will submit a report to the Physical Director with copies to the District Magistrate and Divisional Inspector of Schools not later than the fifth day of each month. The reports will be made on the form supplied by the Physical Director.

Report of the District Organiser for Physical Education,.....

District, for the month of.....19...

General outline of work done.....

.....

Tours undertaken.....

.....

Names of educational institutions visited.....

.....

Names of youth clubs visited.....

.....

Meetings attended.....

.....

Functions, competitions, etc., attended.....

.....

Notes on special cases with action proposed.....

.....

District Organiser for Physical Education.

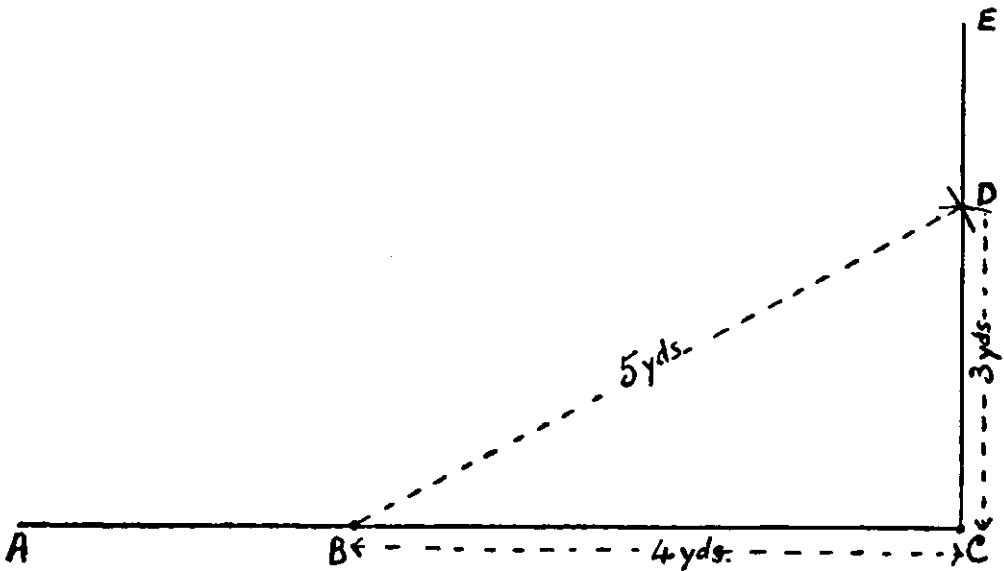
APPENDIX M.

Sketch plans of playing areas.

The following sketches (which are not drawn to scale) show the dimensions of areas required for games of various kinds and measurements which will be found useful in having apparatus manufactured locally.

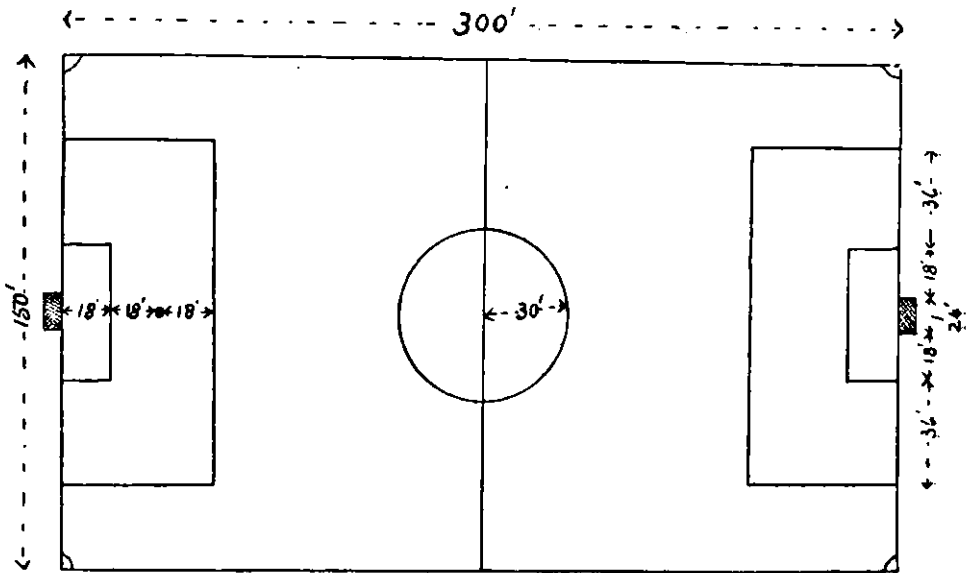
In most schools the question of the cost of apparatus is of primary importance. Everything possible should be done to acquire a stock of apparatus sufficient for a variety of activities, and much money may be saved by using bamboo freely for articles such as goal posts, jumping standards, parallel bars, etc.

It will be noticed that in major games the sizes laid down are those accepted for adults. This does not necessarily mean that these must be adopted. Indeed, there is much need for the wise modification of these measurements, because very often games organised on full-sized fields have the effect of thoroughly exhausting the boys and thus producing harmful instead of beneficial results.

Method of measuring a right-angle.

In all cases where lines have to be drawn to mark fields or courts, it is necessary to know how to find a right-angle. The following is the simplest method:—

- (a) Fix the position of one side line and draw A C.
- (b) Mark the point B four yards from C.
- (c) Draw an arc five yards from B, with B as the centre.
- (d) Draw an arc three yards from C, with C as the centre.
- (e) The line C-E through the point of intersection of the arcs at D, is at right-angles to A-C.

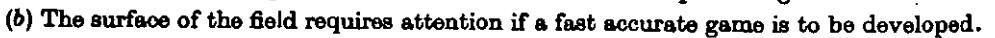
Football.

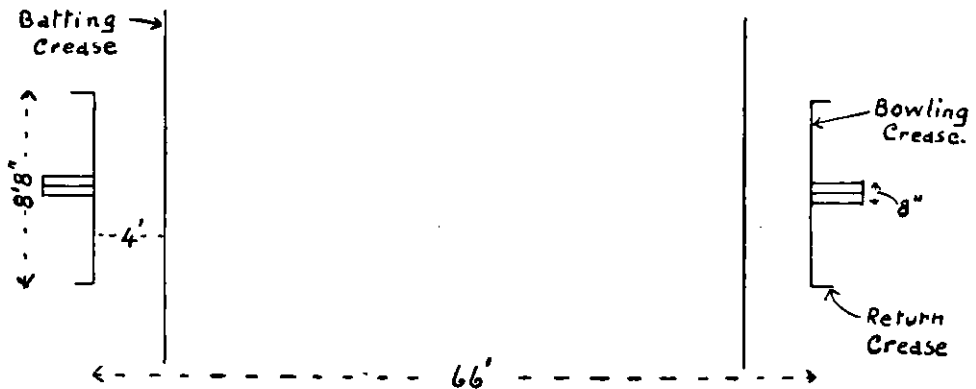
Goals 8' high; 24' wide.

Posts—Front surface of posts and cross-bar 5" wide.

Note.—(a) This is the minimum size according to adult rules. Where considered advisable, a smaller field should be provided, in order to avoid exhausting players. In that case the size of the penalty area and the goals should be diminished in proportion.

(b) Where the school has no playing area other than the football field, the size must be modified so that small area games may be played in addition to football.



Cricket.

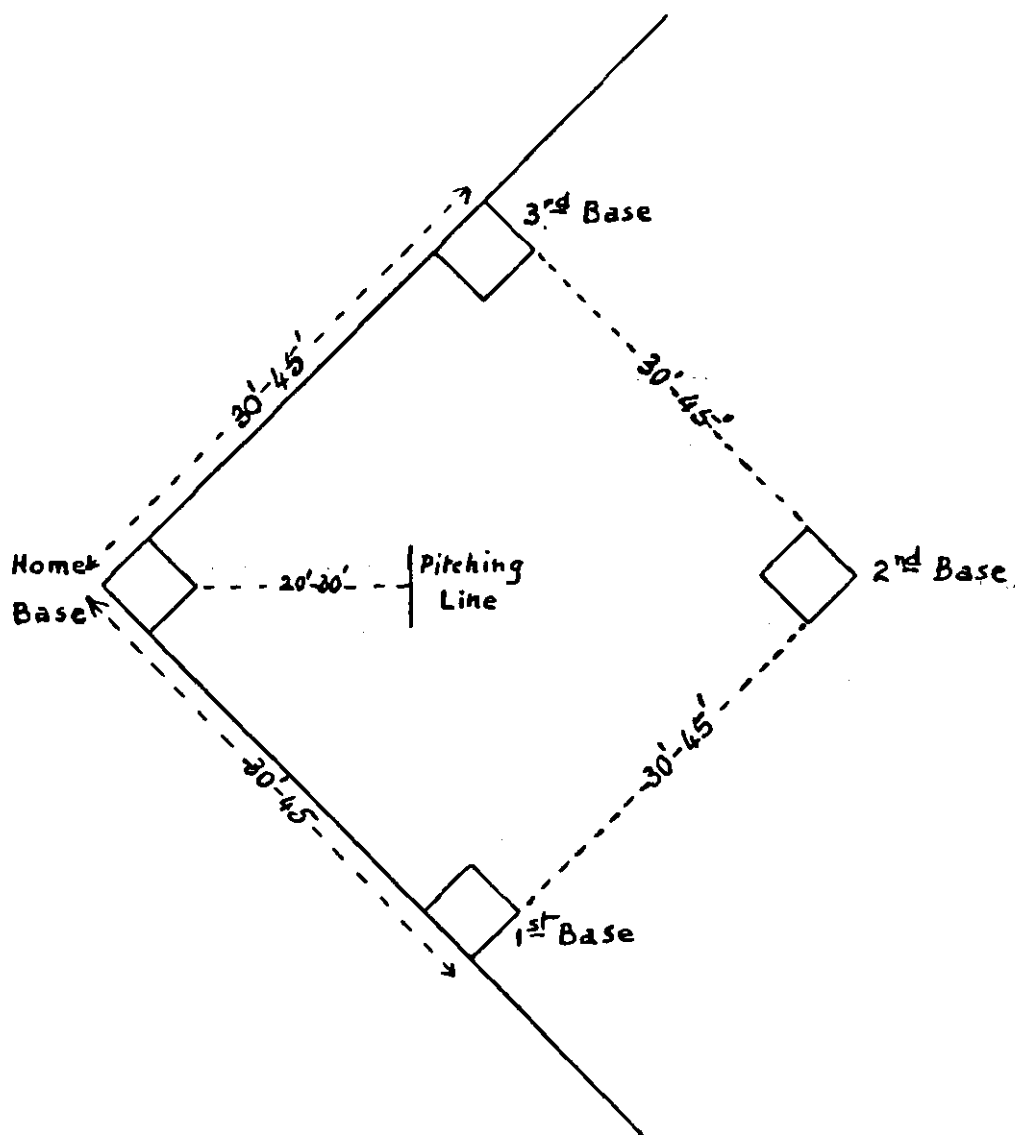
Bat—38" long, $4\frac{1}{4}$ " wide (maximum).

Stumps—27" high, placed 4" apart.

Note.—(a) In routine class work, only cricket practice is possible. Time does not allow of team competitions.

(b) For practice, at least six bats and balls should be available for a class of average size.

(c) Bamboo stumps may be used for practices, in order to reduce costs.

Rounders (or Playground Ball).

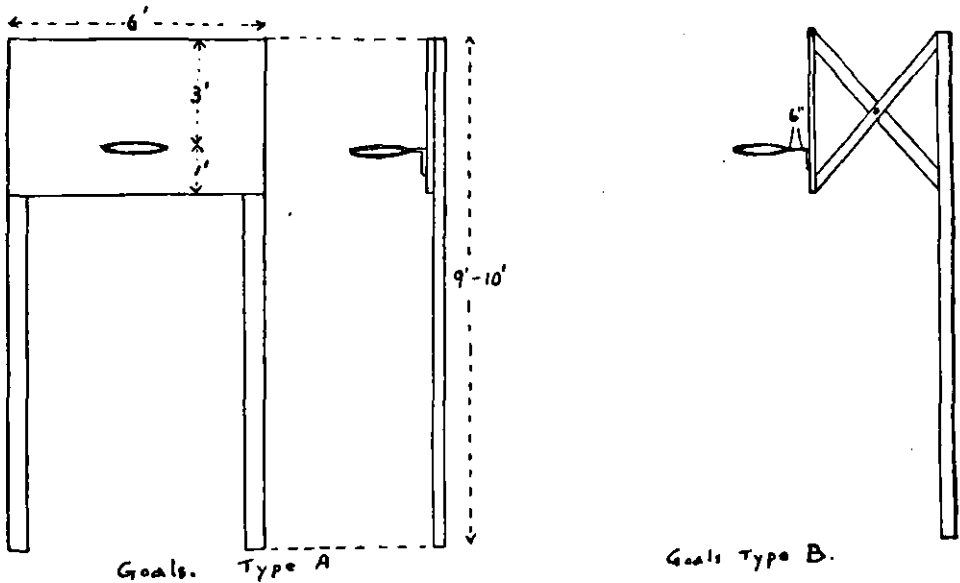
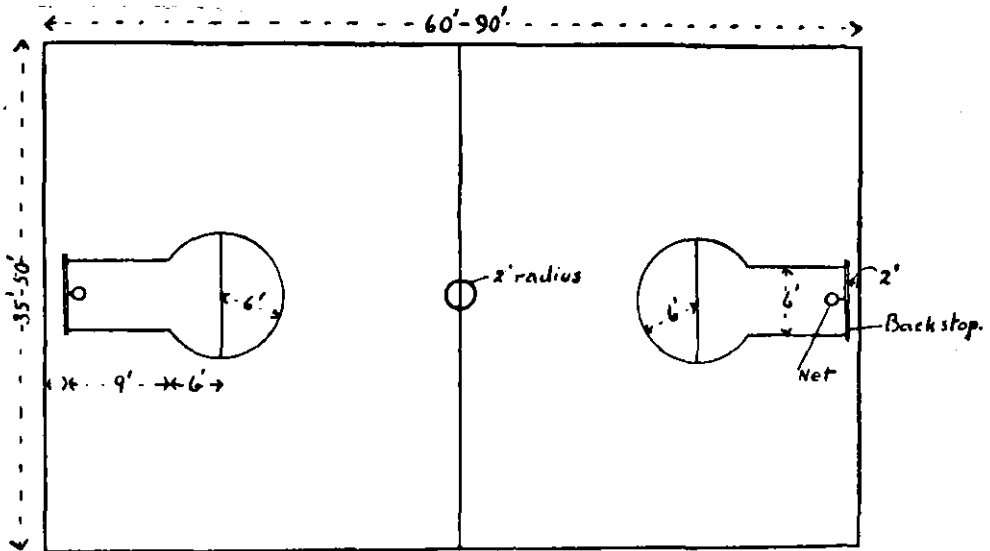
Bat—3' 9" long, 2" diameter, tapered to form handle.

Ball—"Base" ball, cricket ball, or rubber ball.

Note.—(a) This game resembles the American game Base Ball.

(b) It teaches muscular co-ordinations similar to cricket, but provides more continuous activity for the players. It may therefore be taught during the cricket season.

(c) The apparatus is cheap, consisting only of one ball and one bat of wood or bamboo.

Basket Ball.

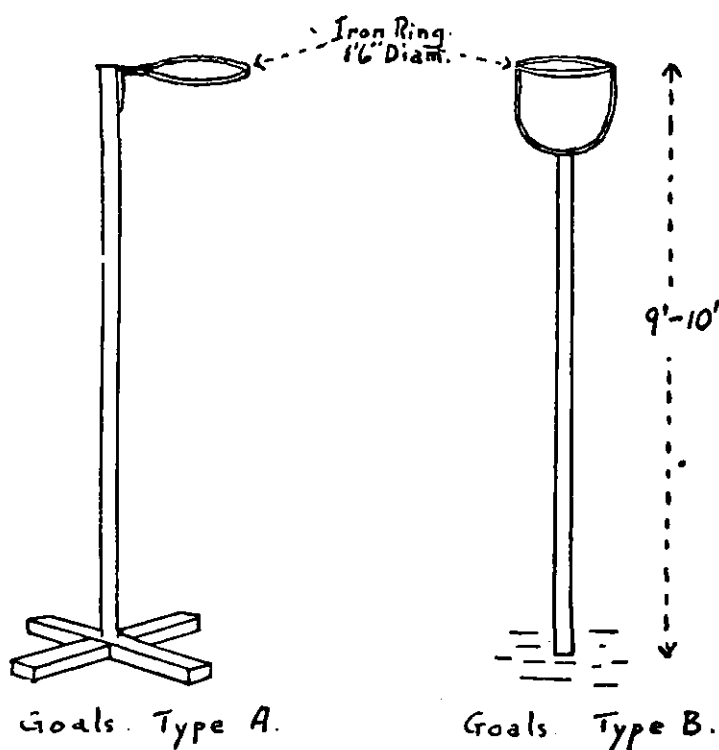
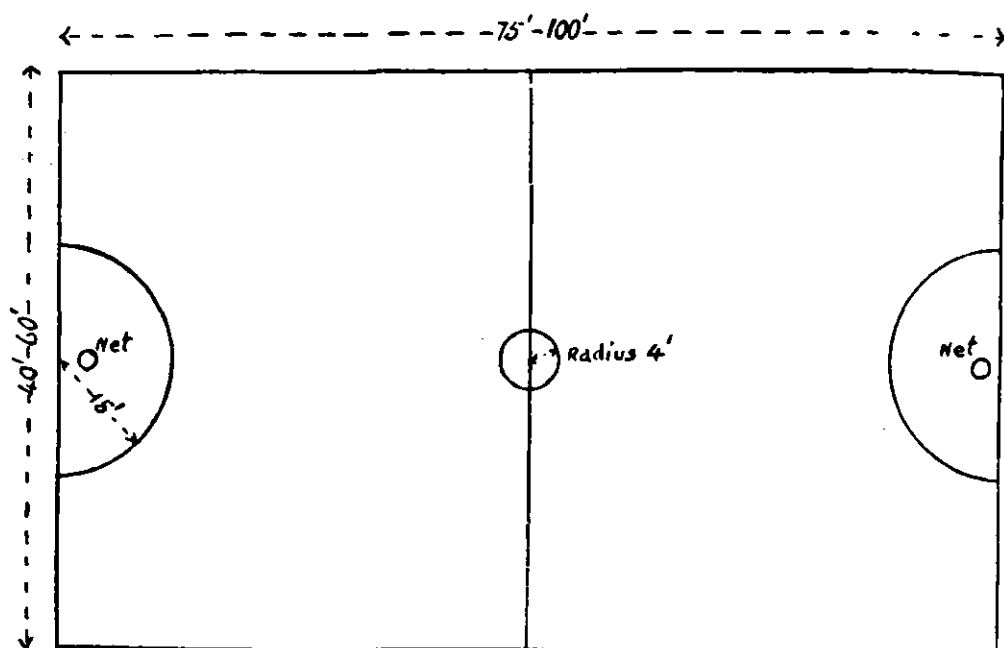
Ring—1' 6" diameter, with stem 6" long.

Note.—(a) Side views of two types of goal are shown, "A" being the simple type suitable for ordinary school play, and "B" being the type advocated for competitions. Type "B" removes all danger of accident through collision with a post during play.

(b) A ring at 10' from the ground is too high for teams of schoolboys, and the difficulty of scoring removes much of the interest from the game.

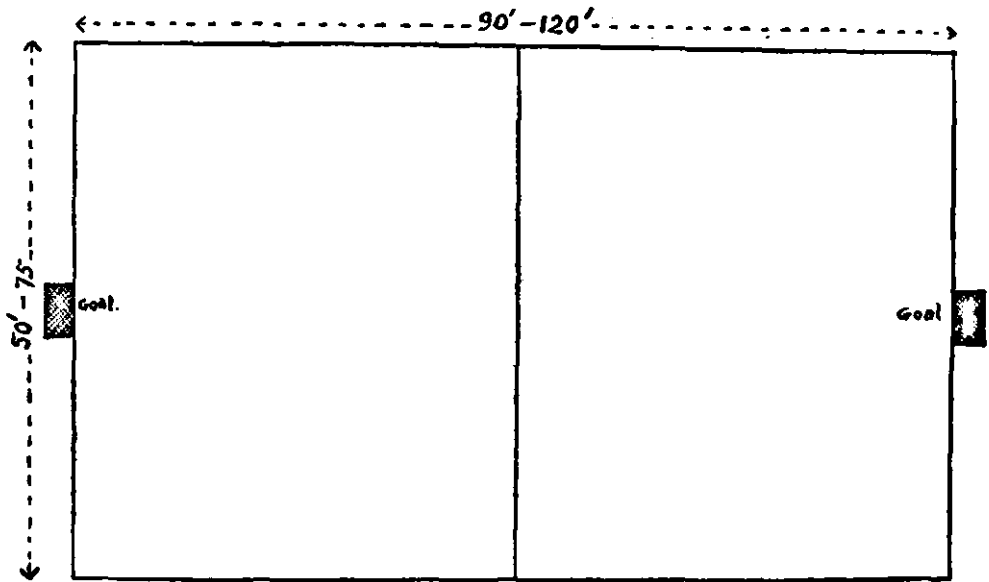
(c) For practice purposes an ordinary football may be used.

Net Ball.



Ring—1' 6" diameter, with stem of 6".

- Note.—(a) This game is a simplified form of basket ball, easily taught, and cheap.
 (b) Diagram "A" shows a portable goal post which is suitable for use in a covered gymnasium or hall. The post may be fitted with holes and pegs and used as a jumping stand.
 (c) Diagram "B" shows a fixed post with an alternative form of ring.
 (d) Both types of rings may be made locally at very small cost.
 (e) Posts may be of bamboo.
 (f) Semi-circles are useful to prevent attempts to score by long throws when the game is first introduced. Later their use may be dispensed with.

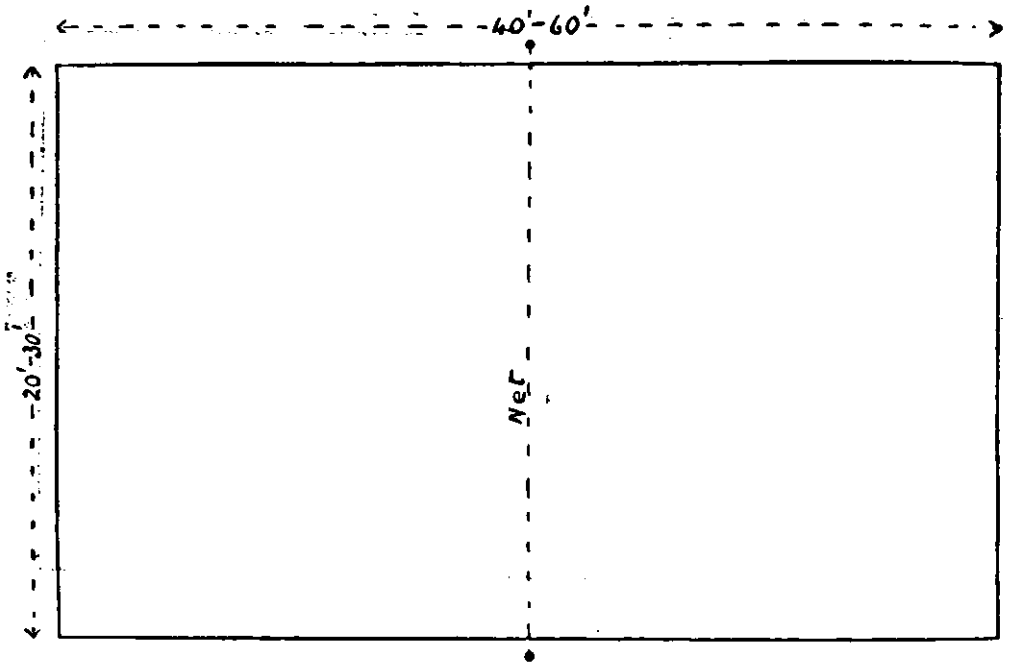
Hindusthan Ball.

Goals—7' high, 12' wide.

Note.—(a) This lively, interesting game is a modification of Net Ball, and is known in Europe as Hand Ball.

(b) Played with a football and posts of bamboo, no additional expense is incurred by its introduction.

(c) A football, size 4, is usually used.

Volley Ball.

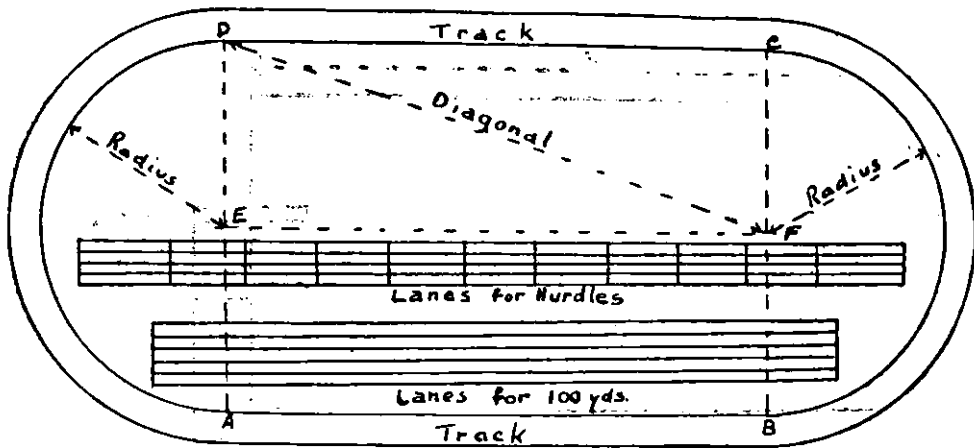
Posts—7' to 8' high.

Net—20' to 30' long, 3' wide, placed at 7' to 8' from the ground.

Note.—(a) The height of the net should be adjusted to the size of the players.

(b) The number of players may exceed that usually mentioned in book rules without spoiling the game.

Athletics.



Dimensions of fields.—In laying down a field for an athletic sports meeting the length of the track for distance races (440 yards, 880 yards, 1 mile, etc.) is determined by the size and shape of the ground available. The following are dimensions giving tracks of various lengths:—

		Line A-B.	Line B-C.	Radius.	Diagonal check.
$\frac{1}{4}$ mile track (standard size)	..	.. 270' 0"	246' 1"	123' 0 $\frac{1}{2}$ "	..
$\frac{1}{4}$ mile track (alternative)	..	.. 225' 0"	274' 0"	137' 0"	263' 6 $\frac{1}{2}$ "
$\frac{1}{4}$ mile track	..	.. 150' 0"	238' 8"	119' 4"	191' 7 $\frac{1}{2}$ "
330 yards track	..	.. 135' 0"	227' 2"	113' 7"	176' 5"
$\frac{1}{4}$ mile track	..	.. 180' 0"	163' 6"	81' 9"	..

Tracks, etc.—(a) A field giving a 330 yards track is the smallest into which a straight hurdles course of 120 yards can be fitted without passing over the circular track.

(b) The course for 100 yards race should have six lanes, each 4' wide.

(c) The course for 120 yards hurdle race should have four lanes, each 4' wide, and each provided with ten hurdles. (See note on page 5.)

(d) A jumping pit should be at least 12' square, and should be filled with sand to ground level.

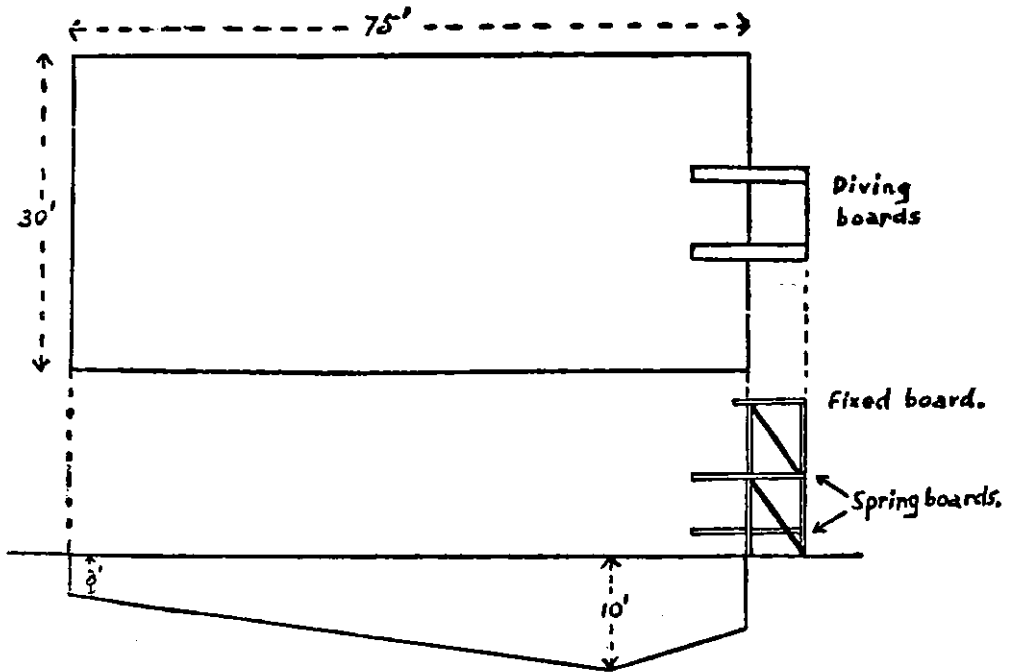
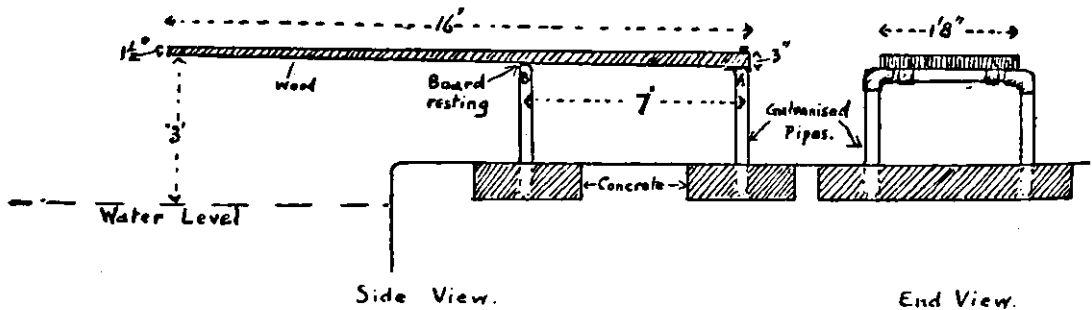
(e) For hammer throw and putting the shot there should be a circle of 7' 0" inside diameter; for discus throw there should be a circle 8' 2 $\frac{1}{2}$ " inside diameter; the cricket ball and javelin should be thrown from behind a line at least 12' long.

(f) A 90° sector should be marked for hammer and discus throw.

Apparatus.—(i) Hurdles should be 4' 0" wide, and 3' 6" high for adults. (See note on page 5.)

(ii) High jump stands should be 10' 0" high, to provide for pole vaulting.

(iii) Specifications for hammer, discus, javelin, etc., may be found in the handbook of the Bengal Olympic Association.

Swimming: Swimming tank.*Spring board for diving.*

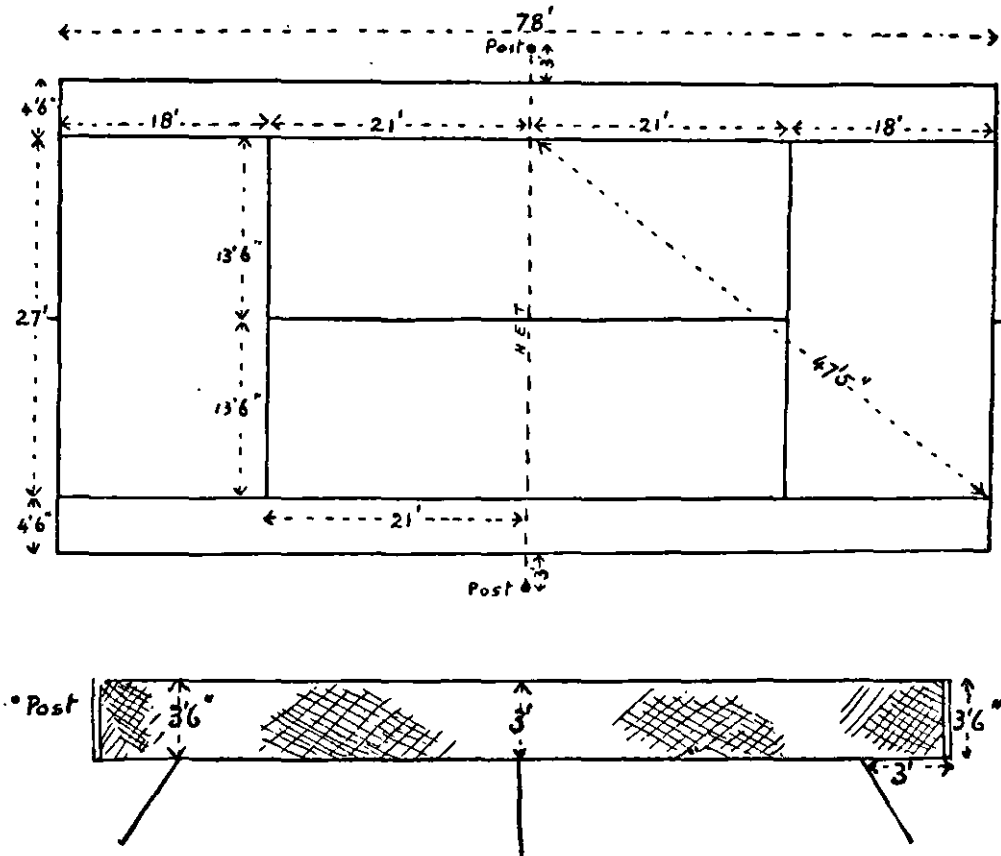
Spring boards—3' and 10' above water level, fixed at inner end only (A) and allowed to rest on outer support (B).

Hand-rails—Of bamboo, fixed around sides, just above water level.

Note.—(a) The minimum size given here permits of class instruction in swimming and diving.

(b) Spring boards should be of one plank if possible, but may be constructed of two planks 10" wide if firmly fixed on iron cross-ties.

Tennis.



Dimensions of Net.

Net—3' high at centre, 3' 6" high at sides and projecting 3' beyond side-lines.

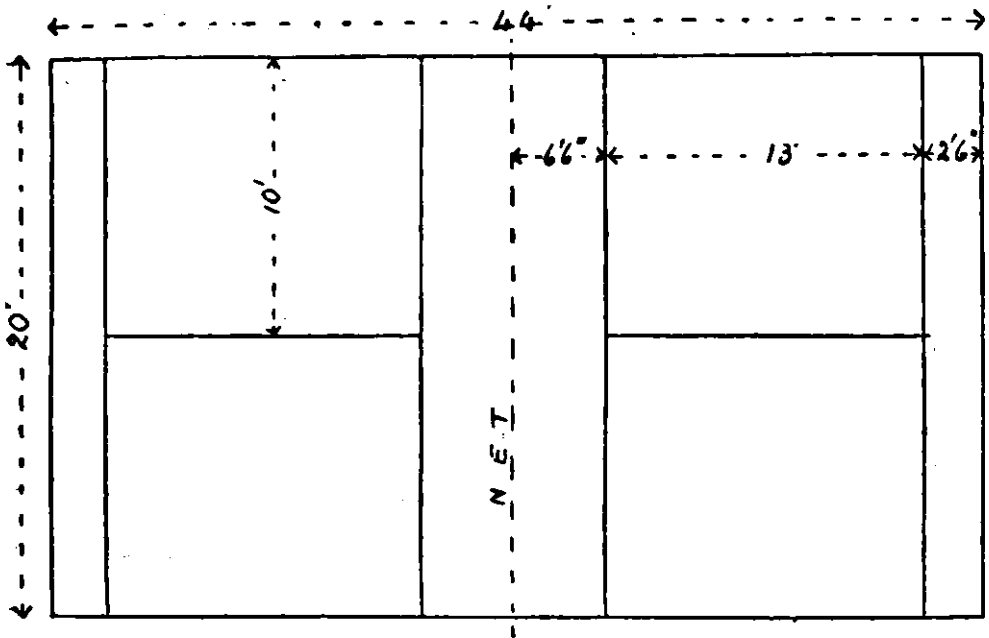
Posts—3' 6" high, of wood or iron firmly set in concrete.

Racquets and balls of regulation pattern supplied by dealers.

Note.—(a) Tennis is costly and only four players at a time may use the court.

(b) As a voluntary game, maintained by a special "tennis fee" it is excellent in schools which have plenty of space.

(c) Players should use their own racquets, as these require more care than is usually given to school property.

Badminton.

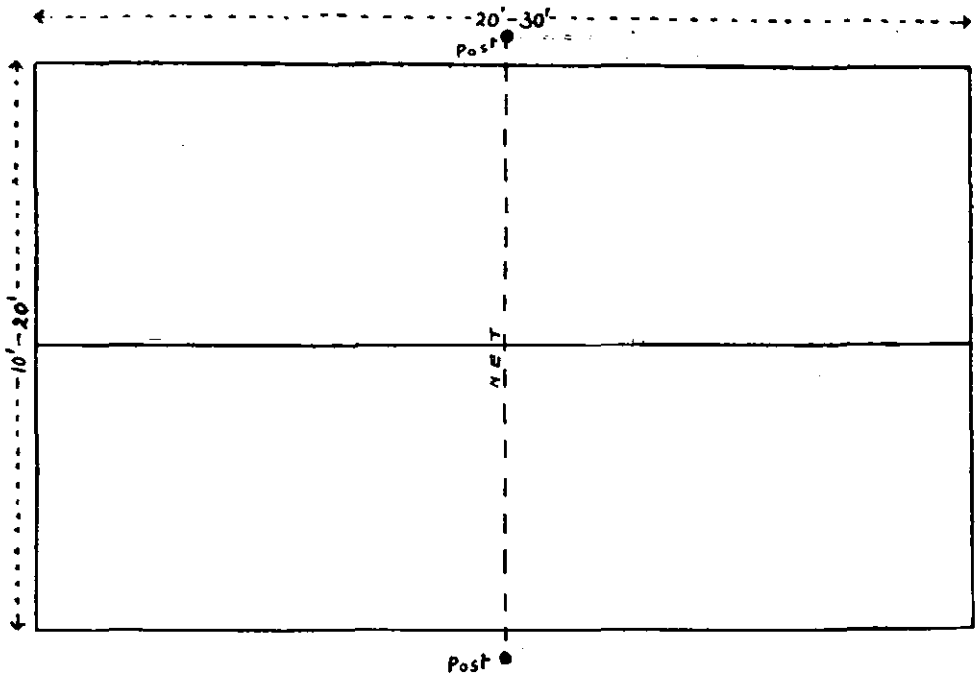
Net—24' long, 2' 6" wide, set at height of 5'.

Posts—5' 1" high.

Note.—(a) Badminton has many of the characteristics of tennis, is cheaper, and requires smaller space.

(b) It is especially suitable as an indoor game for hall or gymnasium.

(c) Played, as it often is, on a large court, with more than four players, and with the net six feet high, most of the interest and activity is removed and it becomes merely a mild amusement.

Teni-Koits.

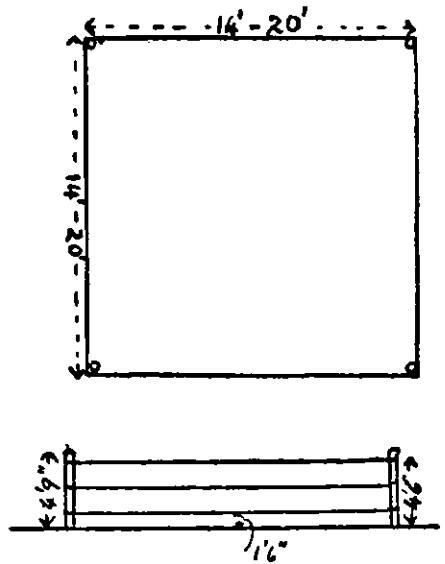
Posts—5' high.

Net 2' 6", at a height of 5'.

Ring—Of rubber or rope, 5" diameter.

Note.—(a) Posts may be of bamboo, the net may be of simple make, and a ring of rope about 1" thick may be easily made. The game, therefore, costs practically nothing to introduce.

(b) Four boys may play on each side if the court is 30' × 20'.

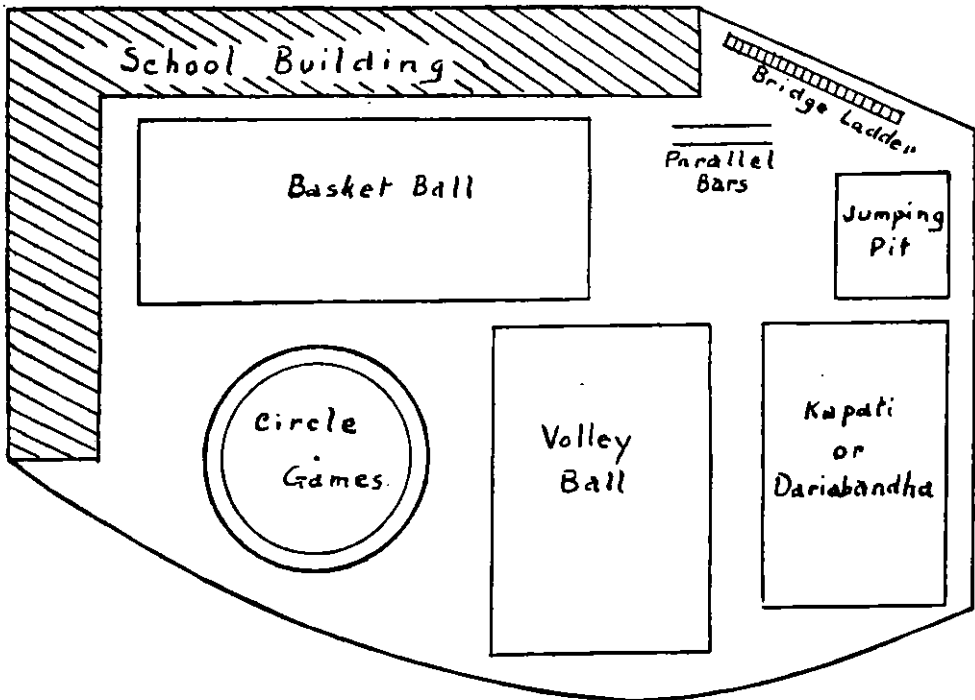
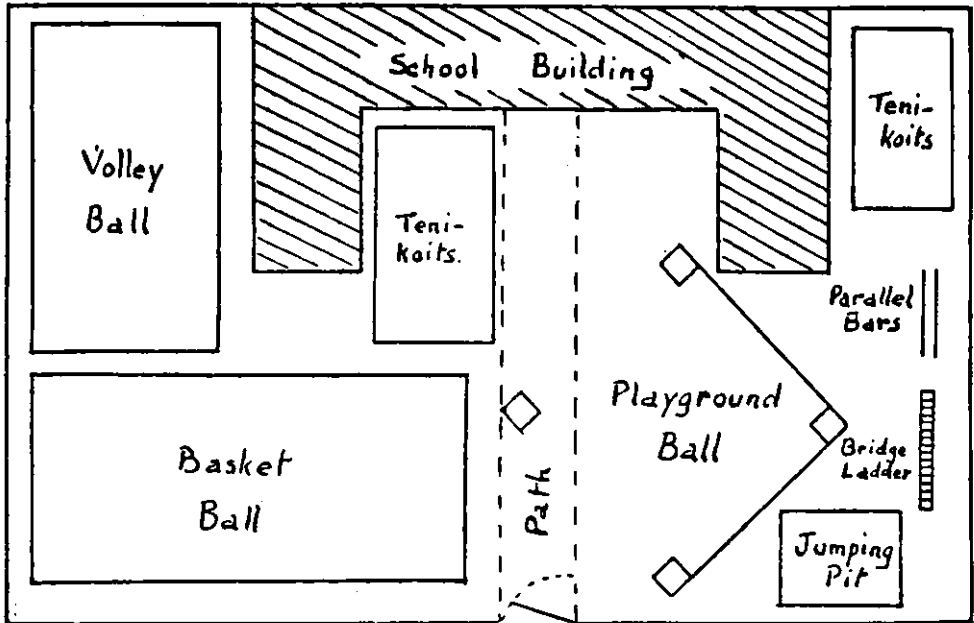
Boxing Ring

Posts—4' 9" high.

Ropes—1' 6", 3' 0", and 4' 6" high.

Note.—A boxing ring is a square area enclosed by ropes fixed on four posts. It is only required for advanced practice and for competitions.

Specimen plans for playgrounds of irregular shape.



Specimen plan for an area 60' x 100'.

COVERED
GYMNASIUM
60 x 30

Parallel
Bars

Bridge Ladder

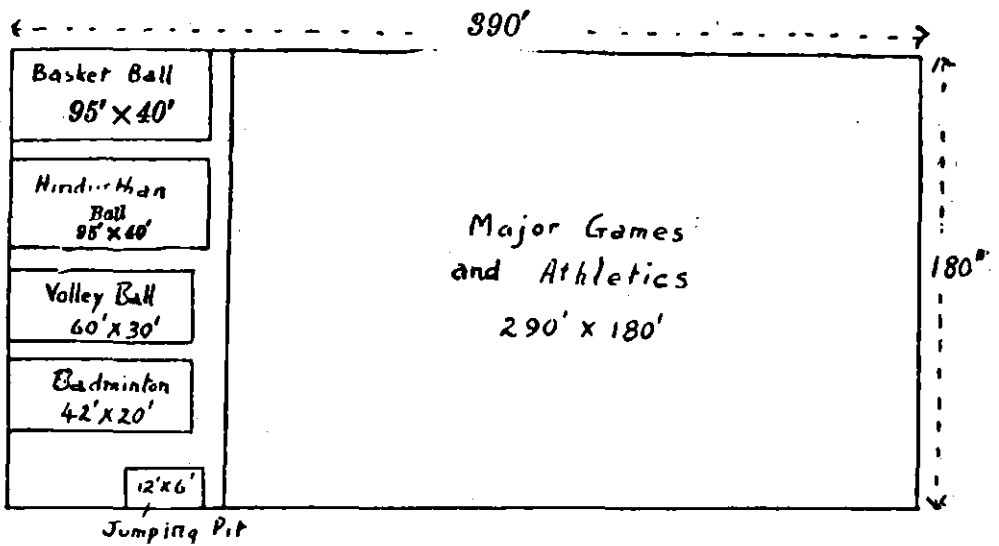
Jumping
Pit

Frame
for
Ropes, Rings, etc.

OUT DOOR
GYMNASIUM
60' x 40'

VOLLEY BALL
OR
BASKET BALL
COURT
60' x 30'

Specimen plan for a playing field 390' x 180'.



APPENDIX N.

Directions for the manufacture of apparatus of a simple type for games and gymnastics.

Bean bags.—Take a piece of strong cloth 9'×12", fold it, and sew it to form a bag. Half fill the bag with tamarind seeds or dried beans of any kind, and sew the top firmly.

Each school should have 12 bean bags for games of throwing, aiming, and catching with junior classes. For young children bean bags are much more suitable than balls.

Bamboo bats.—Cut a length of bamboo, two feet long and about 3" diameter. Cut the upper nine inches to form a thinner handle; shave the other twelve inches on one side to form a flat surface for striking.

All forms of batting games, at all ages, can be practised with these bats.

Jumping stands.—Take two lengths of old pipe or bamboo, 6' 6" long and about 2½" diameter. Bore holes ¼" diameter at intervals of 1". Cut two small pegs to fit the holes and support the crossbar or cord. Fix the poles in the ground 12' apart.

Hurdles.—Cut lengths of bamboo about 1" diameter, and make grooves in the upper ends, to form the uprights; fix them in pairs in the ground 4' apart, to the required height. (See page 5.) Cut cross bars 4' long, and rest them in the grooves of the uprights.

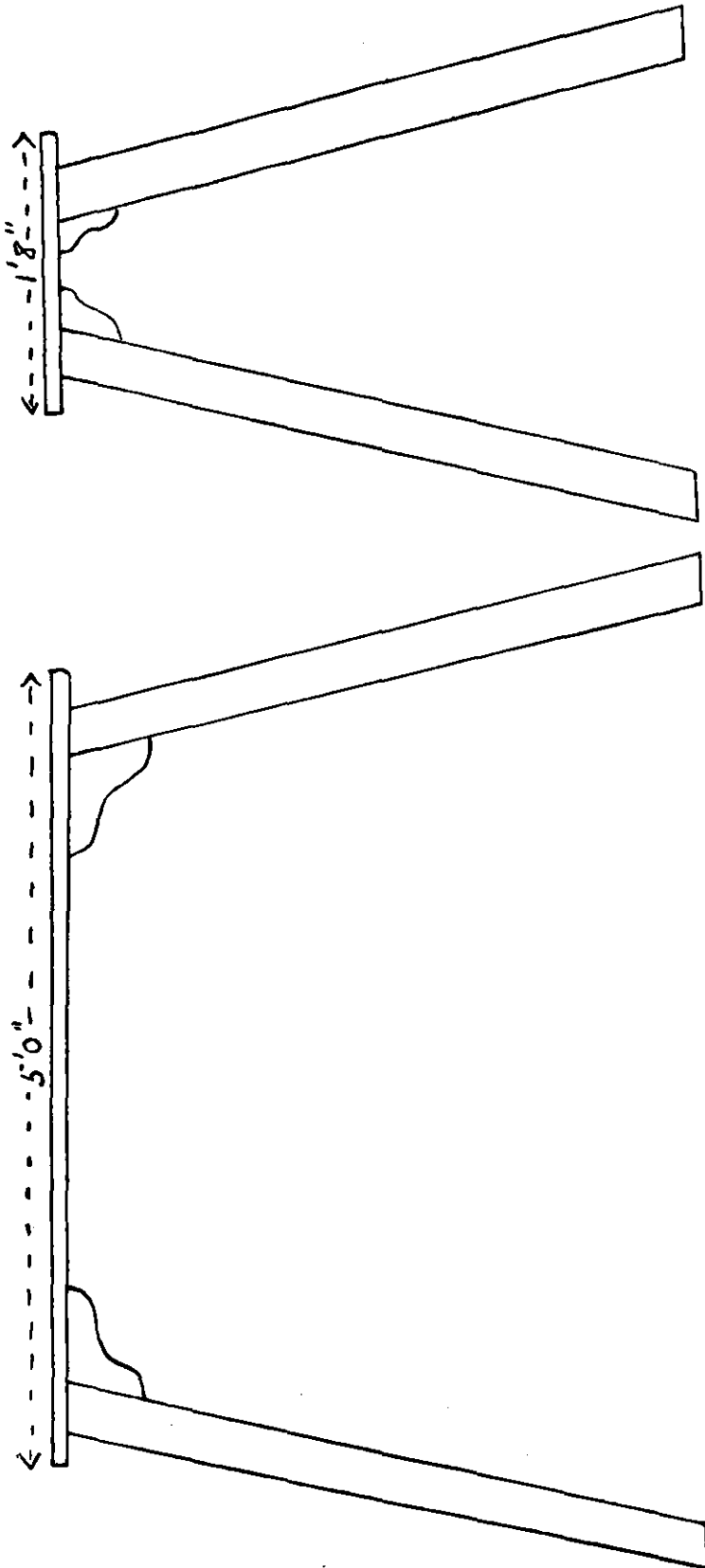
For practice purposes there should be at least four hurdles, at the distance suited to the size of the boys practising.

Sling balls.—Take an old leather football cover. Stuff it tightly with rags or wood shavings and close it by sewing. Make a loop, about 15" long with leather or strong cord, and sew it securely to the ball.

There should be at least six sling balls for practice in the fundamental movements of Discus throw.

Vaulting horse.—Make a flat top with two boards, each 5' 0" by 10", and mount them on four legs 3" square which are spread outward for stability. Pad the top with jute and cover with canvas; ensure that

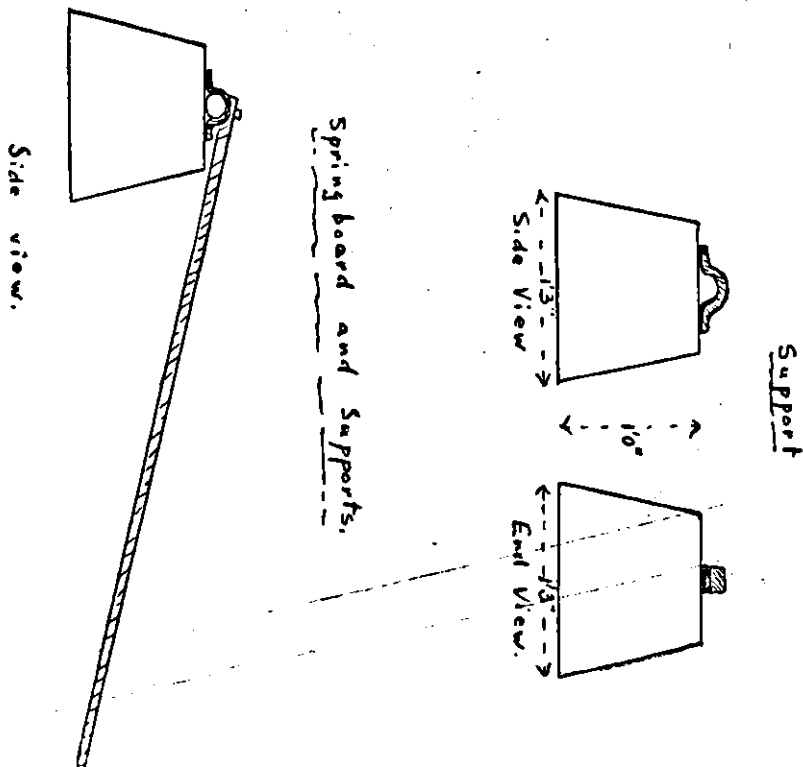
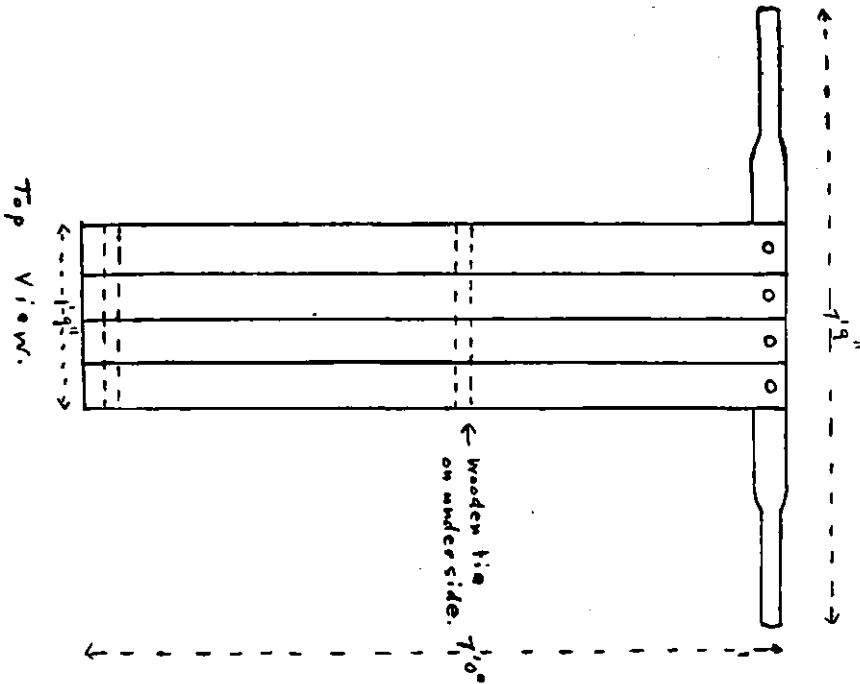
the canvas overlaps the wooden top, so that nails may be fixed on the under side. (See diagram below.)



The horse is a simplified type of vaulting box. Being non-adjustable, there should be two horses, one 2' 6" high for smaller boys (age about 10—13 years) and one 4' 6" high for seniors.

A horse can be improvised by fixing thick bamboo legs into the ground and using the top of an old bench to make the flat surface.

Spring board.—Make this as in the diagram below.



A springboard can be improvised as follows:—

- (a) Fix two bamboo uprights, 12" high, in the ground, 8' apart. Cut grooves in the upper end.
- (b) Place a strong bamboo horizontally across the grooves and tie it in position. This bar provides the "spring." If there is not enough spring, place the uprights further apart.
- (c) Take the top of an old bench and fix one end on the horizontal bar, with the other resting on the ground.

The improvised springboard cannot be moved easily to another position, and its site (with that of the horse, if not portable) should be carefully chosen so as not to interfere with other activities.

Parallel Bars.—These are so well known that they hardly need description. They are mentioned, however, because schools that cannot purchase them should manufacture them from bamboo.

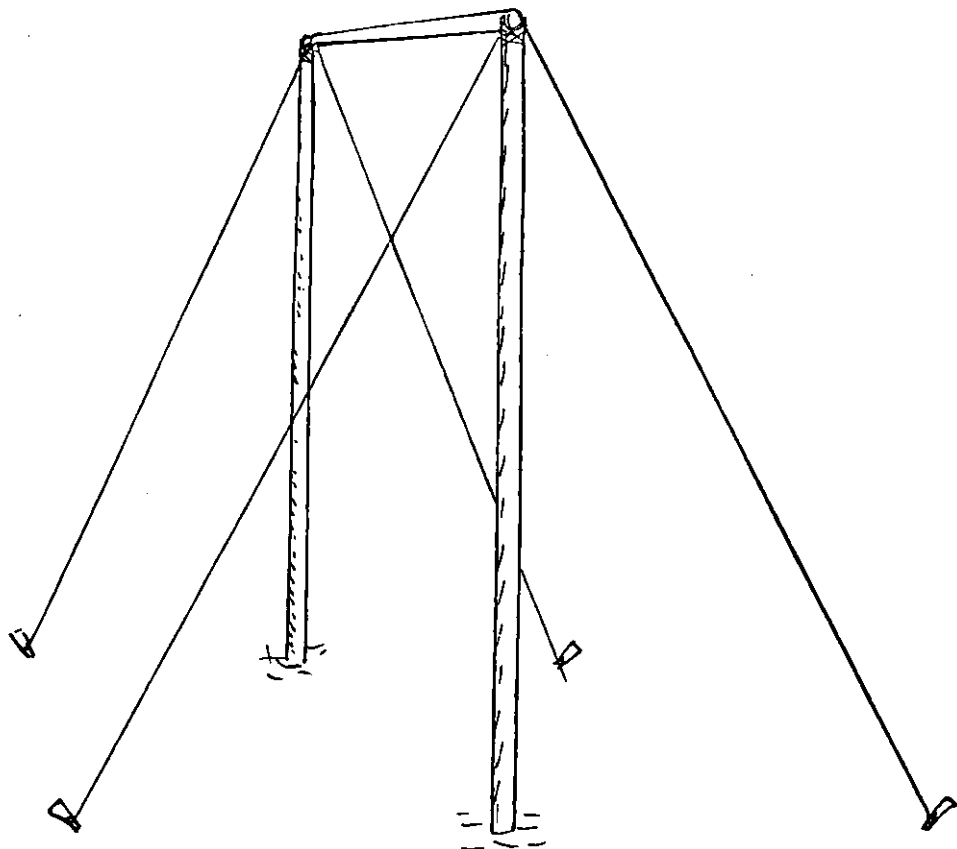
Four uprights, grooved at the top, support bars not more than 4' 6" long between the uprights.

Each school should have four sets; one 6" high for hand-stand practices, one set 3' high and 15" from bar to bar for Juniors, and two of normal size for Seniors.

Horizontal Bars.—Fix two strong uprights, and make grooves in the upper ends. Place the horizontal bar in position and fix securely with ropes. (See diagram below.)

If of bamboo, the uprights should not be more than 4' apart, because of the danger of breaking. Unless set in concrete, ropes from the uprights to pegs in the ground are necessary to prevent swaying.

At least four bars are necessary—one at 3' height for juniors, one at 4', one at 5' 6", and one at 7' height.



Climbing apparatus.—A climbing frame, with ropes, is too expensive for many schools. A cheap substitute can be provided if there are trees in the school compound.

Take suitable lengths of bamboo, about $2\frac{1}{2}$ " in diameter. Cut shallow grooves around one end of each, and tie the end securely, with strong cord fitted in the grooves, to a branch of a tree. Fixed poles for climbing exercises should have the lower ends embedded in the ground; poles for swinging exercises (e.g., heave vault, preparatory exercises for pole vault, etc.) should have the lower ends 12" from the ground.

The cords must be examined periodically to prevent accidents.

APPENDIX O.**List of apparatus required at an athletic sports competition.****(A) *Running.*—**

- (1) Finishing posts—2 pairs.
- (2) Finishing wool.
- (3) Bell—1.
- (4) Stop-watches—3.
- (5) Judges' stand.
- (6) Starting blocks—8 pairs.
- (7) Numbers for drawing lanes by competitors.
- (8) Pistol.
- (9) Blank cartridges.
- (10) Whistle.
- (11) Khurpi—6.

(B) *Relay.*—

- (1) Same as in A.
- (2) Relay batons 8.

(C) *Jumping events.*—

- (1) Sand pits (9' × 20'; 12' × 15')—2.
- (2) Jumping posts (8'; 14')—2.
- (3) Cross bars (12')—6.
- (4) Pole-vaulting box.
- (5) Pole-vaulting poles (11', 12', 13')—3.
- (6) Rake—1.
- (7) Judges' step ladder—1.
- (8) Take-off board—2.
- (9) Steel tape—2.
- (10) Bucket (with wet sand).
- (11) Khurpi—1.
- (12) Iron pin (2')—1.
- (13) Fork (to raise the cross-bar)—2.
- (14) Take-off board, sand adjuster—1.

(D) *Hurdles.*—

- (1) Same as in A.
- (2) Hurdles (adjustable at 2' 6", 3', 3' 6")—65.

(E) *Throwing events.*—

- (1) Javelins—3.
- (2) Toe-board for javelin—1.
- (3) 16 lb. shot—2.
- (4) 7 foot iron circle—1.
- (5) Toe-board for shot put—1.
- (6) Discus—2.
- (7) 8' 2½" iron circle—1.
- (8) 16 lb. hammers—2.
- (9) Hammer cage—1.
- (10) White cards—50.
- (11) Nails (2½")—24.
- (12) Measuring chain (50 yards) or 2 steel tapes (100' each).

(F) *Miscellaneous.*—

- (1) Lime—10 seers (mixed with white ink).
- (2) Ropes—200 yards.
- (3) Marking machine.
- (4) Nails (6")—12.
- (5) Steel wire—60 yards.
- (6) Iron pins (2')—6.
- (7) Wooden right angles—2.
- (8) Earthenware pots (painted white)—250.
- (9) Score-sheets with clip boards—4.
- (10) Scorer's table and chairs.
- (11) Megaphones—3.
- (12) Score-board—1.
- (13) Flags (for marking record distances).
- (14) Pencils.
- (15) Competitors' numbers and safety pins.
- (16) Roller.
- (17) Rule book.
- (18) First-Aid supplies.
- (19) Victory stand.
- (20) Programmes.
- (21) Officials' badges.
- (22) Chalk pencil and duster.

NOTE.—This list shows apparatus necessary for a First Grade Competition. From it, a modified list may be prepared for school competitions.

APPENDIX P.

The Relationship of Voluntary Activities to Physical Education in the School Programme.

Circular No. 81, dated Calcutta, the 31st March 1937.

From—J. M. Bottomley, Esq., I.E.S., Director of Public Instruction, Bengal,

To—The Headmasters of all Government and Government Aided High Schools for Boys in Bengal (through the Divisional Inspectors of Schools or the Principals of Colleges).

I have the honour to refer to the development in recent years of voluntary activities in schools, and to make certain suggestions for the co-ordination of these with the subject in the school curriculum to which they are most closely related, namely, Physical Education.

In the pamphlet "Suggestions for the Improvement of Physical Education in Schools" which has been circulated to all schools, the importance of adequate schemes for Physical Education under trained teachers has been fully emphasised. In that publication reference was also made to Inter-School Sports Organisations, Scouting, and Bratachari, but a more complete statement regarding their scope and value appears to be necessary. Further, the importance of the Junior Red Cross Movement, which has been developing since the pamphlet was drawn up, deserves mention.

2. *Physical education*.—The compulsory Physical Education subjects in the school curriculum are—

- (a) Physical Training, which includes lessons twice weekly during school hours in Free-hand Exercises, Gymnastics, Minor Games, Athletics, etc., and Organised Games or other activities twice weekly after school hours.
- (b) Hygiene Teaching, as laid down in the departmental syllabus for this subject.

The organisation and teaching of Physical Activities and Hygiene can only be effectively conducted by a Physical Instructor who has undergone one year's training either at the Government Training Centre in Physical Education, Calcutta, or at the Y. M. C. A. College of Physical Education, Madras. Certificates of attendance at Short Training Courses in Physical Training, Scouting, or Bratachari do not qualify a teacher to take charge of Physical Education.

In order to make the position clear, the following classification has been adopted in Government institutions, and should be adopted in aided schools:—

- (i) Physical Instructor.—A graduate teacher who holds a Diploma in Physical Education after a course of at least one year.
- (ii) Drill Master.—A teacher who holds the certificate of a Short Training Course, and has been placed in charge of Physical Training and Games. No new appointments should be made under this category.

- (iii) **Games Master.**—A teacher who holds the certificates of a Short Training Course and is placed in charge of Organised Games after school hours daily. The duties of a Games Master should not be confined to the organisation of a particular team in football, hockey, or any other major game.

It should be noted specially that a teacher given charge of physical activities by virtue of a Normal School certificate is not recognised under any of the above categories.

The importance of a good Physical Education Scheme under trained leadership and with adequate financial provision from the School Sports Fees for the purchase of apparatus and improvement of grounds is strongly emphasised because Physical Training and Hygiene are the only means at present by which the health and physical development of *every* boy can be supervised and improved. From this point of view, Physical Education should be regarded as of greater importance than voluntary activities, which affect only a small proportion of the boys of the school, and the Physical Instructor should be allowed to devote his whole time to the organisation of Physical Training, Games, and Athletics.

3. *Voluntary activities.*—In the organisation of Games after school hours an element of choice is given by providing a number of alternative games. This idea may be extended by including in the programme voluntary activities such as Scouting, Bratachari, and Junior Red Cross as further alternatives. For example, members of Scout Troops, who attend Troop Rallies twice weekly, need not turn out for games in addition, unless they wish to do so. If, however, they elect to become members of a voluntary organisation, their attendance at its meetings should be compulsory, and irregular attendance should result in their discharge, with the obligation of attending compulsory games.

It is believed that this method of encouraging regular attendance at Scout, Bratachari, or Red Cross Meetings will be the most satisfactory because—

- (a) The teacher in charge is not required to undertake longer hours of duty than the teacher controlling games.
- (b) Boys who are members have as much time as others for after-school studies.
- (c) The distinction between various activities which are actually closely allied in their aims, methods, and results is removed.

4. *Inter-School Sports Associations.*—The Indian School Sports Association (Bengal) is now a well-established central organisation, with thirty-three branches in the mufassal. The aim is to develop district and subdivisional branches in all parts of the province, and it is strongly recommended that every high school should either give full support to an existing local association, or take steps to form one if none now exists.

The organisation of inter-school competitions, and of physical efficiency tests on standards common to the whole province, is the natural result of improved physical training within each school. It provides boys with an incentive to further improvement and with a

standard of comparison by which to judge their own progress. The Inter-School Sports Movement is, therefore, a development of considerable importance in a Physical Education Scheme, and should be encouraged by all possible means. Care should be taken, however, to guard against the danger of trying to develop school teams for competitions to the neglect of other students. Efficient teaching of physical activities to all students will usually be a more effective method of improving the standard of selected boys, through increasing the number of possibles for special selection, than specialised work with a few students.

The aim of every local association should be to organise not only a football competition at one season, but a series of contests in different games at all seasons; and further, to select representatives to be deputed to the provincial competitions held in Calcutta. Besides having the honour of being selected, boys chosen in this way will learn much from their opportunities for observation and their contacts with students from other parts of the province.

The central association now organises annual competitions in Athletics, Physical Exercises and Gymnastics, Hockey, Football, Swimming, and Net Ball, besides arranging Mass demonstrations of Physical Activities and Physical Efficiency Certificate Tests. It is further proposed to introduce Playground Ball, Volley Ball, and Hindusthan Ball amongst its activities. It is suggested that as many of these activities as possible should be gradually introduced by mufassal associations, so that they remain fully active throughout the whole year.

In their work, local associations should make full use of the knowledge of Physical Instructors, who are now being distributed throughout the province, because these teachers have, during their training, made a close study of methods of organising competitions and of the technique of all the activities mentioned. If this is done, the scope of their work and the benefit of their knowledge will be extended beyond the limits of the schools which engage them.

5. *Scouting*.—The importance of Scouting as an educational factor of importance has been emphasised in previous circulars, but some suggestions are necessary to increase its effectiveness. Its entire success depends upon good leadership, and every effort should be made to depute for training a young teacher who has an interest in this type of activity. The Physical Instructor, during the first two years of his work in a school, should not be deputed, because he cannot himself teach all branches of Physical Training competently if he is also given the organisation of voluntary activities.

When trained, the Scoutmaster should realise that Scouting demands the same methodical attention as any other activity in the school. For example, progress is only possible if boys attend regularly and if they undergo a systematic programme of work which is planned beforehand. Scoutmasters should, therefore, keep a record of attendances at all rallies, arrange two rallies weekly throughout the whole year, prepare a programme of activities which aims at the completion of Tenderfoot, Second Class, and Proficiency Badge Tests at stated times, and keep exact records of the progress of every Scout. Failing these fundamentals, Scouting will only be an aimless form of recreation in which there is much unnecessary repetition that may lead to loss of interest in the movement.

In schools where the House System has been introduced, it is suggested that the four Scout patrols should be selected from different Houses. This will add to the interest of rallies and demonstrations, and provide a certain amount of rivalry between the patrols as a means of improving their efficiency.

Scout leadership is essentially a work for young teachers, and it is suggested that if a Scoutmaster who has acted in this capacity for a number of years feels that the increase of home responsibilities and inevitable mental and physical changes in himself make retirement desirable, he should be allowed to give up the work without any reflection upon his ability, and should be replaced by a young and freshly trained teacher.

6. *Bratachari*.—Much of what has been said regarding Scouting applies also to Bratachari. These activities should be in the charge of a young and vigorous teacher who has musical aptitude and the ideal of social service. Usually, it will be found that only a small proportion of the boys in a school wish to be active members throughout the whole year, and, since Bratachari cannot in itself fulfil the needs of a full scheme of physical education, the activities should be organised as one branch of after-school activities, under a teacher who is not concerned with the organisation and supervision of games for the mass of students.

In the annual programme of the Sangha, due attention should be paid to the social service aspect of the movement. The songs and dances are the recreational and physical side of Bratachari, and are of considerable importance. But too much emphasis on these will lead to mechanical repetition and loss of interest. The other aspect of Bratachari is the practical application of the ideals and vows, which aim, through theoretical and practical hygiene, the clearing of jungles and water-hyacinth, the suppression of malaria, the cultivation of small vegetable and flower gardens, etc., at the improvement of village welfare. Without regular instruction in these matters, and work of a very definite nature in the school, the village, and the surrounding country, the Bratachari Sangha cannot be said to be fulfilling the function for which it has been created, namely, that of removing some of the obstacles to the health and happiness of the nation.

7. *Junior Red Cross*.—This comparatively undeveloped movement in Bengal is one which should appeal to many boys who, because of their temperament, are not strongly attracted to other voluntary activities. The work of the Junior Red Cross is concerned mainly with the teaching of Elementary Physiology and Anatomy, and the Laws of Health, which provide a basis for further study of First Aid and Hygienic Living. Its practical application is to be found in the treatment of injuries and simple diseases, the adoption of "safety first" habits, and the prevention of diseases by improved sanitation and cleanliness of environment.

The movement is, therefore, one of considerable value and is so closely allied to the work of Physical Education that it may become one of the important after-school activities. Care should be taken, however, to see that the members do not lose all chance of personal Physical Training while concerning themselves with activities designed to help others to improve their health. The growing student requires controlled activity to guide his own development, and some adjustment

of the programme of members of the Junior Red Cross group should be made whereby they devote a certain amount of time to physical activity in addition to their other work.

8. *Conclusion.*—As will be seen, the activities of voluntary organisations may be looked upon as part of a general scheme under which, by means of the practice of physical activities and knowledge of hygienic laws, the individual boy may have improved opportunities to develop his own health, and through training in methods of giving social service, develop his knowledge, his ideals, and his powers in such a way as to make a contribution to the improvement of the welfare of the community in general.

It is unlikely that any one school will introduce all three of the voluntary organisations mentioned, and it is questionable whether this is desirable because it makes school organisation unnecessarily complicated and may even confuse the students by providing too many possible alternatives. But there can be no doubt that the inclusion in Physical Education of at least one voluntary activity will bring about a considerable improvement in the educational scheme, through influencing the minds of students in the direction of improved health, widening their interests, and cultivating the correct attitude towards social problems which require urgent attention.

APPENDIX Q.

Circular No. 15, dated Calcutta, the 19th September 1938.

From—The Director of Public Instruction, Bengal,

To—The Divisional Inspectors of Schools (with copies for their Inspecting Staffs and for Headmasters, Government, Aided and Unaided Secondary Schools, Superintendents of High Madrasahs and Headmasters of Junior Madrasahs).

I have the honour to refer to the subject of Physical Education. Government have sanctioned a large-scale scheme for the physical education of school students and for Youth Welfare in general, which consists of the following main items:—

Educational Institutions.

- (a) The appointment of one Assistant Physical Director, and of an Organiser of Physical Education in each district of the Province.
- (b) The expansion of the College of Physical Education in order to increase the output of graduate physical instructors.
- (c) The award of special grants to selected non-Government high schools and high madrasahs to enable them to carry on medical inspection and tiffin supply.
- (d) Grants to schools for the improvement of playing fields, apparatus, swimming tanks, and other facilities for physical education.

- (e) Grants to Inter-School Sports Associations, Scouts, and Bratachari, in order to assist them in further developing their work.
- (f) Grants for the organisation of short training courses for teachers from secondary and primary schools and madrasahs.

Youth Welfare.

- (i) The establishment of District Councils for Youth Welfare.
- (ii) The awards of grants to the Councils, and to Clubs or Associations that organise physical and recreational activities for young people not enrolled as school students.

2. Information regarding these items is contained in Physical Director's letter No. 34-G., dated the 10th February 1938, a copy of which is enclosed. Certain changes were subsequently made in the methods of allotment, but the general principles remain as explained in that letter.

3. The following points may be noted in connection with the development of the scheme:—

(a) *Compulsory physical education.*—It is important that in all Government and aided schools the regulations regarding this subject should be strictly adhered to. Every class, including classes X and IX of high schools and madrasahs, *must* have at least four periods of organised physical activity weekly either during or after school hours throughout the whole school session. The amendment of the grant-in-aid rules in such a way as to ensure that these regulations are strictly adhered to is now under consideration.

Although most schools have introduced a sports or physical education fee, there are still exceptions, and steps should be taken to enforce the introduction in all high schools and high madrasahs of fee of at least Re. 1 per annum for classes X to VII and of As. 8 for classes VI to III. In middle schools and junior madrasahs the fee should be As. 8 per annum for all classes.

The fund raised from these fees should be kept separate from other funds, and should be used for the improvement of playing fields and swimming tanks, the purchase of apparatus for games and gymnastics, and the general organisation of physical activities. A reasonable proportion of the fund may be allotted for the development of Inter-School Sports, Scouting, or Bratachari.

The scheme of Physical Education conducted should be on the lines given in the Physical Director's booklet "Suggestions for the Improvement of Physical Education" which was recently circulated by this department to all high schools and high madrasahs.

(b) *Appointment of trained graduate Physical Instructors.*—The general plan is to train physical instructors who can be absorbed in high schools and high madrasahs, with combined academic and physical education work, without extra cost to the schools; and to train young class teachers at short courses so that they may assist the physical instructors in organising games after school hours. The Physical Instructors, being graduates, should be gradually absorbed

in the general teaching line as they advance in age (say, about the age 35-40 years) and young freshly trained instructors appointed in their places. It is not desirable to have an elderly teacher in charge of physical education unless he has exceptional ability.

No separate funds have been allotted to give grants to schools to aid in the maintenance of qualified instructors. Definite recognition and encouragement should, however, be given to schools that appoint such men. Proposals are now being considered under which schools that maintain trained instructors on a salary of not less than Rs. 50 per mensem may be given extra grants-in-aid.

It may not be possible for all schools to obtain a trained physical instructor at once, because the number of schools is very large. But, if it is found that a school in an important situation takes no steps to appoint such a teacher, special attention should be paid to the school and, if necessary, the amount of grant-in-aid should be reconsidered.

The needs of middle and primary schools, junior madrasahs and maktabas, will be met gradually by training class teachers at short courses under the District Organiser of Physical Education.

(c) *Medical inspection, tiffin and physical education grants.*—It is intended to introduce in selected high schools and high madrasahs a three-fold scheme which will provide valuable data regarding the improvement of health and physical welfare. In each school selected there must be a trained physical instructor who is provided with adequate facilities in the way of playing fields, apparatus, and full co-operation by the school authorities and staff. In each such school the following grants will be given:—

- (i) Medical inspection grant of anna 1-6 per boy per month on condition that a fee of pies 6 per boy is introduced. This should provide funds for one complete medical inspection each year, with supervision of special cases throughout the year, by a medical officer.
- (ii) Tiffin grant of annas 3 per boy per month on condition that a fee of anna 1 per boy is levied.
- (iii) Grant for the improvement of playing fields, swimming tanks and apparatus.

(d) *Grants to voluntary associations.*—Funds have been provided to give equal assistance to Inter-School Sports Associations, Scouts, and Bratachari. Each of these movements should be encouraged to—

- (i) Form a District Committee which will co-ordinate the work within the district, co-operate with the District Organiser of Physical Education, and represent its views and needs upon the District Council for Youth Welfare.
- (ii) Maintain close touch with its own headquarters in Calcutta, so as to receive assistance, conduct its work along the right lines, and further extend the scope of its work.

4. To some extent, the problems of organising physical education in schools are separate from those concerned with the welfare of youths who have left school. Gradually, however, through school representation on District Councils for Youth Welfare, a closely co-ordinated scheme for all classes of young people will be built up. In

this connection a letter is about to be issued to District Magistrates, of which a copy will be sent to you in due course. It is there suggested that, in forming new clubs or associations for young people, "Former Students" clubs connected with individual schools and madrasahs should be developed, and that school premises should be used as headquarters or club rooms when they are not required by school students. The plan to use school premises is suggested because of the difficulty at first experienced by clubs in obtaining premises of their own, and need not be regarded as a permanent arrangement. It should, however, be encouraged by Inspectors of Schools so that school authorities may give their consent when they are approached in the matter by club organisers.

5. In conclusion I would point out that care has been taken in developing the general scheme not to burden schools with new extra-academic requirements that will hinder ordinary studies. Time allotments for physical education are those which are existed for the past ten years, although not always complied with; and the physical instructors to be appointed are teachers with academic qualifications equal to those of the large majority of teachers now employed in high schools and madrasahs. The object of the scheme is to enforce adequate provision for health education in schools which have until now failed to act upon the suggestions made by the department from time to time regarding the vital need for attention to this subject.

6. Orders regarding the detailed financial allotments and appointments made under this scheme will follow at an early date.