IMPACT

The Future Makers

Vol.3. 2016-17

Central Research Committee
Shri Shikshayatan College, Kolkata

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FROM THE EDITOR'S DESK

The Central Research Committee, Shri Shikshsyatan College, functioning since March 2014, has been bringing out its Journal IMPACT, comprising of articles submitted by students as part of their Summer Project.

This volume in addition to the summer projects has a report on collaborative students' project.

We take pride in presenting the Third Volume of IMPACT. IMPACT is aimed primarily to facilitate research among young undergraduate and post-graduate scholars. The best article, submitted as summer project has been chosen by each department for publication.

The articles, chosen from various streams of study, facilitate an inter-disciplinary scholarly culture that has been a part of the tradition that Shri Shikshayatan College has always cherished and nurtured. We hope to continue broadening the research perspectives through IMPACT.

Editorial Board
July '17

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বাংলার পটচিত্র

প্রকল্প ঃ ২০১৬-২০১৭ (বাংলা বিভাগ)
গ্রন্থনা : তৃতীয় বর্ষ
19 সমীক্ষা ও সাক্ষাৎকার : প্রাক্তন (বাংলা বিভাগ)

পটচিত্র সম্পর্কে কিছু ধারণা

31 পটের উপর আঁকা চিত্রকে পটচিত্র বলে। ইংরাজীতে একে scroll painting বলা হয়। এটি প্রাচীন বাংলার অন্যতম সাংস্কৃতিক ঐতিহ্য। প্রাচীনকালে যখন কোনো রীতিসিদ্ধ শিল্পকলার অস্তিত্ব ছিল না, তখন এই পটশিল্প বাংলার শিল্পকলার
37 ঐতিহ্যের বাহক ছিল। যারা পটচিত্র অঙ্কন করেন তারা বহুকাল থেকে পটুয়া নামে পরিচিত।

পট শব্দের প্রকৃত অর্থ হল 'কাপড়'। শব্দটির উৎস সংস্কৃত পট। বর্তমানে এই শব্দটিকে ছবি, ছবি আঁকার মোটা কাপড়
46 বা কাগজের খন্ড ইত্যাদি অর্থেও ব্যবহার করা হয়। পটের উপর তুলির সাহায্যে রঙ লাগিয়ে বস্তুর রূপ ফুটিয়ে তোলাই পটচিত্রের মূল কথা। এতে কাহিনীর ধারাবাহিকতা চিত্রিত হতে থাকে। প্রায় আড়াই হাজার বছর ধরে পটচিত্রে উপমহাদেশের শিল্প জনজীবনের আনন্দের উৎস, শিক্ষার উপকরণ এবং ধর্মীয় আচরণের অংশ হিসাবে ব্যবহৃত হয়ে
56 এসেছে। বাংলাদেশের পটচিত্রের মধ্যে গাজীর পট ও কালিঘাটের পট বিশেষভাবে উল্লেখযোগ্য। পট মূলত দুই ধরনের — ১। চৌকা পট - এগুলোর আকার ছোটো হয়।

২। জড়ানো পট - এ ধরণের পট ১৫-৩০ ফুট লম্বা
68 এবং ২-৩ ফুট চওড়া হয়।

কাপড়ের উপর গোবর ও আঠার প্রলেপ দিয়ে
71 প্রথমে একটি জমিন তৈরী করা হয়। সেই জমিনের উপর তুলি দিয়ে বিভিন্ন চিত্র অঙ্কিত হয়।

81 **পটের প্রকারভেদ**

বিষয় বৈচিত্র্য অনুসারে সংগৃহীত পটগুলি বিভিন্ন প্রকারের হতে পারে, যেমন - চকসুদনপট,
84 যমপট, সাহেবপট, কালিঘাটপট, গাজিপট, সত্যপীরের পট, পাবুজীপট ইত্যাদি। সাধারণভাবে পটকে ছয়ভাগে ভাগ করা যেতে পারে

১) বিষয়নিরপেক্ষ, ২) রাজনৈতিক, ৩) ঐতিহাসিক, ৪) ধর্মীয়, ৫) সামাজিক, ৬) পরিবেশগত।

উদাহরণস্বরূপ বলা যেতে পারে বিষয় নিরপেক্ষ পটগুলির মধ্যে যেকোনো ধরণের নর-নারীর ছবি অথবা শিল্পচিত্র দেখা যায় এবং সামাজিক পট বলতে বোঝায় সামাজিক সচেতনতা বৃদ্ধির জন্য যে

আছে। গুজরাটে এখনও 'চিত্রকথী' এর অস্তিত্ব আছে। এই 'চিত্রকথী' হচ্ছে পটগানের গুজরাতী ভাষা এবং সেখানকার পটুয়ারা বাংলার পটুয়াদের মতো ঘুরে ঘুরে পট দেখিয়ে অর্থ উপার্জন করে।

বাংলাতেও কোনো এক সময় পটুয়ারা পট দেখিয়ে, গান শুনিয়ে যেমন অর্থ উপার্জন করত তেমনি সমাজের দরিদ্র মানুষদের শিল্পত্ব দান করত।

শুধুমাত্র বৌদ্ধ কিংবা হিন্দু পৌরাণিক অলৌকিক কাহিনীকে আশ্রয় করেই পটগান রচিত হয়নি, মুসলিম কাহিনী নিয়েও পটগান তৈরী হয়েছে যেমন - গাজী কানহুর পটগান। গাজীপীরকে মনে করা হত বাঘের দেবতা। পূর্ববঙ্গে বেশি প্রচলিত ছিল এই গাজী কানহুর পট। প্রফুল্ল উপাধি পূর্ববঙ্গের গাজীর পট নাচানোর বর্ণনায় এক স্থানে একটি চিত্রের উল্লেখ করেছেন - ''গাজী সাহেব ব্যাঘ্রের উপর সন্ন্যাসী ও চারিদিকে উর্ধ্বপুচ্ছ ব্যাঘ্রাদির পলায়ন।''

ড. সুকুমার সেন - তাঁর 'ইসলামিক বাংলা' গ্রন্থে গাজীর পট নামে একটি আলোকচিত্র দিয়েছেন, শ্মশ্রুধারী বাঘের উপর গাজীর মনুষ্যমূর্তি অঙ্কিত দেখা যায়। এছাড়াও গাজী - কানহু-চম্পাবতীর জীবনকে কল্পনা করে তাদের জীবনের ধারাবাহিকতার উপর পটগান রচিত হয়েছে।

অবশ্য প্রাচীন পটের প্রত্ন নিদর্শন নেই বললেই চলে। তবে বিদেশের বহু মিউজিয়ামে প্রাচীন পট সংরক্ষিত আছে যার মধ্যে অক্সফোর্ড All Souls College, ম্যানচেস্টারে John Rylands Library এবং আয়ারল্যান্ডের Chester Beatty Library তে রাখা আছে সাত থেকে আটটি আকর্ষণীয় পটচিত্র। এগুলির মধ্যে আবার Chester Beatty Libraryতে রাখা পাঁচটি সবচেয়ে বেশি প্রাচীন। ভাগবত ও পুরাণের গল্পে অঙ্কিত এই পাঁচটি আনুমানিক পনেরো শতকের। মসলিন কাপড়ের তৈরী ও দেশীয় রঙে আঁকা এই পাঁচটির দৈর্ঘ্য ১৭০ ফুট এবং প্রস্থ মাত্র ২ ইঞ্চি। ধারণা করা হয় গাজীর পটচিত্রগুলি ষোলো শতকের। ইসমাইল গাজীর আবির্ভাব পনেরো শতকের শেষের দিকে মনে করা হয়।

অবশ্য ষোলো শতকের কবি মুকুন্দরামের চন্ডীমঙ্গল কাব্যে পটচিত্রের উল্লেখ পাওয়া যায়। অক্সফোর্ডে All Souls College এর পটটি সতেরো শতকে অঙ্কিত এবং ম্যানচেস্টারে John Rylands Library এর পটটি ১৮৭০ সালে অঙ্কিত।

পটচিত্রের বিভিন্ন রূপভেদ

বাংলায় পটচিত্রের দুটি রূপকল্প দেখা যায় - পৌরাণিক ও ঐতিহাসিক পট।

- **ঐতিহাসিক পট**

ঐতিহাসিক পটের উপজীব্য, যা এর নাম থেকেই প্রকাশিত তা হল ঐতিহাসিক ঘটনাবলী, যেমন - দ্বিতীয় বিশ্বযুদ্ধ, আজাদ হিন্দ্ বাহিনী ও নেতাজী সুভাষ চন্দ্র বসু, আণবিক বোমাবর্ষণ ইত্যাদি।

করতে গিয়ে ১৯৯৪ সালে মংলা অঞ্চলে এ বিলুপ্তপ্রায় পটগানের সন্ধান পান। সংস্থার প্রধান নির্বাহী স্বপন গুহ এবং পরিচালক রফিকুল ইসলাম খোকন এর অভিজ্ঞ চোখ বুঝে নেয় এ মাধ্যমটির কিছু পরিবর্তন সাধন করলেই তা উন্নত যোগাযোগের ক্ষেত্রে একটি অসাধারণ মাধ্যম হয়ে উঠতে পারে। তারা এলাকায় আয়োজন করলেন পটগান প্রতিযোগিতা। একাজে তাদের উৎসাহিত করেছিলেন মংলা এলাকার প্রবীণ শিক্ষক ও সংস্কৃতি কর্মী কৃষ্ণপদ অধিকারী।

'রূপান্তর' প্রথম পটটি উপস্থাপন করে ১৯৯৮ সালের ৫ই জুন বিশ্ব পরিবেশ দিবস উপলক্ষ্যে বাগেরহাট জেলার রামপাল উপজেলায়। অবশ্য পটগানটিও তৈরী হয়েছিল সুন্দরবনের পরিবেশকে ঘিরে। 'রূপান্তর' পটগান নিয়ে আরও বিভিন্ন গবেষণা করে। উল্লেখ্য 'রূপান্তর' এর পটগানগুলি কোনো পৌরাণিক কিংবা অলৌকিক কাহিনী নিয়ে নয়। এটিকে আসলে উন্নয়ন যোগাযোগের মাধ্যম হিসাবে ব্যবহার করা হয়েছে। যে কারণে অনেক বেশি দর্শককে একসাথে দেখানো এবং তাদের দৃষ্টি আকর্ষণ করার জন্য পটচিত্র, সুরের বৈচিত্র্য এবং উপস্থাপনের ভঙ্গিও অনেকখানি পরিবর্তন করা হয়েছে।

এরূপ পটগানকে চতুর্থ প্রজন্মের পট বলা হচ্ছে। এই পটগান ক্রমশ ব্যাপকতা পাচ্ছে ও সর্বসাধারণের মধ্যে মর্যাদা ও জনপ্রিয়তা লাভ করেছে। 'রূপান্তর' এর পটগান এখন জনসচেতনতার এক প্রধান মাধ্যম হিসাবে ব্যবহৃত হয়। 'রূপান্তর' এর চতুর্থ প্রজন্মের পটগান উন্নয়ন যোগাযোগের মাধ্যম হিসাবে ব্যবহৃত হলেও এখন অনেক এন.জি.ও. এই শিল্পকে সংরক্ষণের প্রচেষ্টায় মেতে উঠেছে। 'রূপান্তর'-এ পটগানের প্রযুক্তি বিষয়ে অন্যান্য এন.জি.ও. কে প্রশিক্ষিত করার ব্যবস্থা করেছে। এটাই 'রূপান্তর'-এর সার্থকতা যে তারা যা শুরু করেছিল তা এখন অন্যরা গ্রহণ করে আত্মস্থ করছেন। এতে বাংলাদেশের বিলুপ্তপ্রায় একটি লোকসংস্কৃতি মাধ্যম তার ঐতিহ্য ফিরে পেয়েছে।

কালীঘাটের পটচিত্র সম্পর্কে ধারণা

কালীঘাটের পটচিত্র

কলকাতার কালীঘাট মন্দিরের এলাকায় আঠারো শতকের শেষভাগ ও গোটা উনিশ শতকে চিত্রকলার ক্ষেত্রে এক স্থানীয় ধারা প্রচলিত হয়। এই শিল্পরীতি এখন কালীঘাট চিত্রকলা বা কালীঘাট পটচিত্র নামে পরিচিতি লাভ করে। উপনিবেশিক শাসনের ফলে গ্রামবাংলার জনজীবনের ভারসাম্য বিনষ্ট হয়। গ্রামের পটুয়ারা তাদের জীবিকার উপায়

নিয়ে আসেন শিল্পকলা অ্যাকাডেমিতে, ১৯৯৪ সালে। ২০১০ সালে এক্সপ্রেশনের দশম বার্ষিকীতে শম্ভু আচার্যের প্রথম এক্সিবিশন হয় গ্যালারি চিত্রকে। এক্সপ্রেসনের বিশ বছর পূর্ণ উপলক্ষে এটি তাঁর দ্বিতীয় এক্সিবিশন। কিন্তু বাংলাদেশে সব মিলিয়ে এটি চতুর্থ এক্সিবিশন দেশের বাইরেও হয়েছে প্রদর্শনী। ২০০৩ সালে প্রথম প্রদর্শনী, তারপর ২০০৬ সালে দ্বিতীয় এক্সিবিশন হয় গৌতম চক্রবর্তীর গ্যালারি কায়াতে, ২০০৭ সালে ইউরোপীয় ইউনিয়নের পঞ্চাশ বছর পূর্ণ উপলক্ষ্যে আলিয়ঁস ফ্রসেজে। ২০০৭ সালের চিন্তা থেকে এক এক্সিবিশন করেন এবং সেই চিন্তা থেকে পাঁচ বছরের চেষ্টায় চলতি এক্সিবিশনটির আয়োজন করেন।

শম্ভু আচার্য এবং তাঁর পরিবারের সক্রিয় ভূমিকায় পটশিল্পের পুনর্জাগরণ ঘটে। বর্তমানে এই শিল্পকলার অবস্থা সম্পর্কে প্রশ্ন করলে তিনি জানান, বর্তমান অবস্থা আগের চেয়ে অনেক ভালো। তাঁর বিশ্বাস - "পৃথিবী গোল, ঘুরে ফিরে আবার এক জায়গাতেই আসতে হবে আমাদের। আর শিকড়ের প্রতি সবার আকর্ষণ চিরন্তন।" পটশিল্প আদিকালের শিল্প। মাঝখানে ভাটা পড়লেও তাঁর বাবা, পটশিল্পীদের অষ্টম পুরুষ, মঞ্চের পিছনেই কাজ করে গেছেন। পুরুষ ন্যাশনাল কাপ কাউন্সিল শম্ভু আচার্য ও তাঁর বাবাকে আবিষ্কার করে। এবার এক্সিবিশন করে তিনি উপলব্ধি করতে পারলেন যে - আবার আগের মতই মানুষের আগ্রহ বেড়েছে পটশিল্পের প্রতি। তাই তিনি মনে করেন, আগামীদিনে পটশিল্পের ব্যাপক প্রসার পরিলক্ষিত হবে।

এদেশের সাধারণ মানুষকে পটশিল্প সম্পর্কে জানানোর সত্যিকার অর্থে কোনো উদ্যোগ আছে কিনা এ বিষয়ে নানা মতভেদ আছে। কিন্তু এ প্রসঙ্গে শম্ভু আচার্য বলেন - এ বিষয়ে উদ্যোগ নিতে হলে আর্ট ইনস্টিটিউট হতে পারে, স্কুলে এর প্রশিক্ষণ হতে পারে, এছাড়া বিভিন্ন ওয়ার্কশপ হতে পারে। কিন্তু এই উদ্যোগেরই অভাব। তবে তিনি নিজে উদ্যোগে কিছু ওয়ার্কশপ করার চিন্তা করেছেন, যাতে সবাই পটশিল্প সম্পর্কে জানতে ও শিখতে পারে। একসময় তাঁর অবর্তমানেও তাঁর প্রতিনিধিত্ব করার মানুষগুলোকে তিনি গড়ে যেতে চান। তাঁর পরিবারের সকলেই এর সাথে জড়িত। তাঁর সন্তান পটশিল্পীদের দশম পুরুষ হবে, সেও কাজ করছে। তিনি আরও বলেন --- চারুকলা থেকে ডাকলেই যে পটশিল্প শেখানো হবে সেটা বড় কথা নয়। তিনি নিজে যেমন গাছতলায় এর চর্চা করতে পারেন, তেমনি নদীর ধারেও পারেন। চারুকলার মোজাইক করা দেওয়াল, মোজাইক করা গ্যালারি বড় কথা নয়। এক প্রতিষ্ঠানে গিয়ে শিখতে হবে, বা শেখাতে হবে - এমন কোনো বাধ্যবাধকতা নেই। বিশেষ দিনে বা কোনো জাতীয় উৎসবেও তিনি শেখাতে পারেন।

পটশিল্প নিয়ে তাঁর নির্দিষ্ট কোনো পরিকল্পনা আছে কিনা এ বিষয়ে প্রশ্ন করলে জানান কিছুদিন আগে ইউরোপীয় ইউনিয়নের প্রতিনিধি গিয়েছিলেন একটি ইনস্টিটিউট করার জন্য। তিনি নিজ উদ্যোগে কাজটি করার পরিকল্পনা করেন বুয়েটের ইঞ্জিনিয়ারদের সঙ্গে নিয়ে। কিন্তু এই ইনস্টিটিউট শম্ভু আচার্য ধরে রাখতে পারবেন কিনা, বা তাঁর গ্রামে যে পরিবেশ সেখানে এই ইনস্টিটিউট টিকে থাকতে পারবে কিনা, বা ছাত্র-ছাত্রী পাবেন কিনা - এসব নিয়ে কিছুটা চিন্তিত। তিনি যে গ্রামে থাকেন সেখানকার মানুষের এ বিষয়ে তেমন কোনো শিক্ষা বা ধারণা নেই, তাই ইউরোপীয় ইউনিয়নের এত টাকা খরচা করে ইনস্টিটিউট তৈরী করার পর যদি তার সঠিক ব্যবহার না হয়, তবে লাভ কী? সব মিলিয়ে তিনি সিদ্ধান্ত নেন, যেভাবে আছে সেভাবে চলুক। কেউ যদি নিজের ইচ্ছায় শিখতে আসে, তাহলে তিনি শেখাবেন। তিনি চান

ঐতিহ্যকে আধুনিক যুগ জীবনের পটভূমিকায় প্রতিষ্ঠা দিয়েছেন। তিনি বোঝাতে চেয়েছেন ঐতিহ্যের ওপর ভিত্তি করেই যেমন সংস্কৃতির সমৃদ্ধি ঘটে, তেমনি জাতিগত চেতনার মহত্বও ধরা পরে। আলোচ্য প্রবন্ধে যামিনী রায়ের কেবল শিল্পবোধ নয় স্বদেশ চেতনাও দীপ্যমান।

যামিনী রায় দেশীয় ঐতিহ্যে, দেশীয় প্রকরণ ও উপাদানে দেশের অন্তরাত্মাকে তাঁর শিল্পে মহতী রূপ দিয়েছেন। উনিশ শতকীয় নবজাগৃতি যেখানে শিল্পে ইউরোপীয় চিন্তাধারার প্লাবন এনেছিল, তাতে ভেসে না গিয়ে যামিনী রায় স্বদেশী শিল্পের শিকড়কে আঁকড়ে ধরেছিলেন। তাই আপাত দৃষ্টিতে যে পটুয়া শিল্প উপেক্ষিত তাকেই তাঁর সাধনার ক্ষেত্র হিসাবে নির্ধারিত করেন। যামিনী রায়ের ঐতিহ্যের এরূপ পুনর্মূল্যায়ন মনে করিয়ে দেয় বিষ্ণু দে-র উচ্চারণ

"জল দাও আমার শিকড়ে" ('জল দাও')

পটুয়া শিল্পের ভিত্তি দানা বেঁধেছিল পুরাণের ওপর। যেখানে তারা আগাগোড়া এক সামান্য লক্ষণের জগৎ আবিষ্কার করেছিলেন যা শিল্পের প্রাথমিক শর্ত। সংহিতা পুরাণের যে জটায়ুকে শিল্পী যামিনী রায় এঁকেছিলেন তা মর্ত্য লোকের কোনো পাখি নয়, কিন্তু তবুও পাখির গঠনই তার মধ্যে গড়ে উঠেছিল ও এক আশ্চর্য বিশ্বাসের জগতে এই বৈশিষ্ট্যই বিশুদ্ধ শিল্পের ভিত্তিকে সুদৃঢ় করেছিল।

ইউরোপীয় শিল্পের সঙ্গে দেশীয় শিল্পের এখানেই প্রধান পার্থক্য। যে শিল্প পুরাণ ভাবনাকে তথা ঐতিহ্যকে ত্যাগ করে পরিবর্তনের স্রোতে গা ভাসিয়েছে সেই শিল্পকে যামিনী রায় অনুসরণ করেননি। ইউরোপীয় শিল্পে পুরাণ ভাবনা ভেঙে যাওয়ার পর শিল্পীরা জীবন নির্ভর কোনো বিশ্বাস খুঁজে পেল না, এল অস্থিরতা। কিন্তু বাংলার পটুয়া শিল্প তার ঐতিহাসিক ভিত্তি থেকে বিচ্যুত না হওয়ায় এখনো সজীব। 'ভাব ও আঙ্গিক' এর মেলবন্ধনে পুরোনো বিশ্বাসের ভিতে জাতীয় প্রাণকে পল্লবিত করে পটুয়া শিল্প তাই এখনো স্বতন্ত্র ভাবে উজ্জ্বল।

এ শিল্পরূপের দুটি রূপ একদিকে পুরাণ বিশ্বাস, অন্যদিকে দৈনন্দিন জীবনের চেহারা। পুরোনো ভিত্তি সুদূরকে আকর্ষণ করে, দৈনন্দিন সীমানায় দায়িত্ব দেয়, সীমা ও অসীমের মেলবন্ধনে পটুয়া শিল্প পোশাকি শিল্পকে পরাজিত করেছে। এখানে ইউরোপীয় শিল্পের দৈন্যদশা থেকে তার শ্রেষ্ঠত্ব। ইউরোপীয় শিল্প কেবল পুরাণ বিশ্বাস হারায়নি, বরং বিকল্প নতুন বিশ্বাসও গড়তে পারেনি, কেবল আধুনিক শৌখিনতার পালিশে নিজেকে নিখুঁত করার নেশায় মেতেছে।

কবি বিষ্ণু দে-র লেখা থেকে জানা যায় - তথাকথিত পাশ্চাত্য ভাবনার ছবি থেকে লোকায়ত শিল্পের দিকে সরে আসার মুহূর্তে, যামিনী রায়ের মনের অসহায় দোলাচলের গভীর সংকটকালে রবীন্দ্রনাথের একটি লেখা তাঁকে কী আশ্চর্যরকম আলোর পথ দেখিয়েছিল, সে লেখাটির নাম 'তপোবন'। বিষ্ণু দে জানিয়েছেন যামিনী রায়ের ব্যক্তিগত

ধীরে সবাই মূর্তির দিকে চলে আসে। বাবাই আমাকে বলতেন "কালীঘাটের পটটা তুই আঁক, এইটা এখন তো হারিয়ে যাচ্ছে, এইটাকে তুই ধরে রাখার চেষ্টা কর।" আর এমনিতেও আমার সবরকম কাজ করারই ইচ্ছে হয়, যেমন — ছবি যখন আঁকি তো ছবি আঁকি, মূর্তি গড়ার সময় মূর্তি গড়ি, স্কাল্পচারও করতাম, শুধু যে পট আঁকি তা নয়, তিন চার রকম কাজ করি। এবার আস্তে আস্তে আমার পটের বাজারটা বেশ ভালোই লাগছে, বিভিন্ন গ্যালারি আছে যারা আমায় অনবরত অর্ডার দিয়ে যায়।

প্রঃ কোন কোন গ্যালারিতে কাজ করছেন এখন?

উঃ বেশিরভাগ সব Tejas Art Gallery। আর সব বাইরে থেকে, বিদেশ থেকে, দিল্লি থেকে আসে। তারপর এখানে তো একটা মার্কেট আছেই, সব গ্রাহকরা আসে সেখানে। এখন এতোটাই চাপ যে আমি এঁকে কুলাতে পারি না। আর এইসব কাজ তো তাড়াতাড়ির কাজ না, তাই আমি ওদের থেকে সময় চেয়ে নি। তাড়াহুড়ো করলে হবে না।

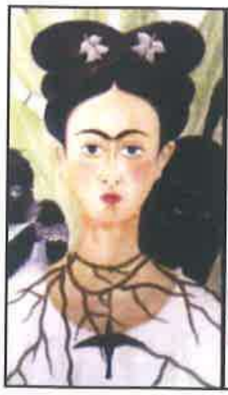
প্রঃ গ্রাহকরা বেশিরভাগ কিরকম বিষয়বস্তু কেন্দ্রিক পটের অর্ডার দেন?

উঃ দেব দেবী অনেকেই চায় না। বেশিরভাগ সব বাবু ক্যারিকেচার এর ওপর — বাবু কালচারটা চায়। এগুলো সব আমার নিজস্ব ভাবনাচিন্তায় করা। আমি তো আগে কপি করতাম, ধীরে ধীরে বাবা বললেন, "কপি করছিস কর, কিন্তু নিজস্বতাটা রাখবি। শুধু কপি করলে, কপির মধ্যেই থেকে যাবি। তোর নতুন কাজ বেরোবে না। কাজকে ভাঙার চেষ্টা কর।"

তখন আমি নিজে নিজে ভাবতাম এবং আগের যে পট আঁকা তার থেকে আরও 'নিখুঁত'-এ যেতাম, আরও কিভাবে ভালো করা যায়, আরও কিভাবে গোছানো যায়। দেখবেন আমার এখনকার আঁকা আর আগেকার আঁকার অনেকটা তফাৎ দেখতে পাওয়া যায়। আমি হালকা করে ছাড়ি না। ওর মধ্যে যাতে আরও কিছু করা যায়, জামাটা যাতে আরও সুন্দর করা যায়, মুখের গঠনটা যাতে আরও সুন্দর হয় — এই চেষ্টাই চলতে থাকে। একজন বিখ্যাত মেক্সিকান আর্টিস্ট Frida Kahlo কে আমি কালিঘাট ছবির ধরণে করেছি, যার চাহিদা মারাত্মক। এরকম ছবি আমেরিকাতেও গেছে বেশ কিছুদিন আগে এবং রাজস্থানের একজন দুটো নিয়ে গেছে ও দুটো অর্ডার দিয়েছে।

প্রঃ Art form হিসেবে পট চিত্রকেই বেছে নেওয়ার কারণ কী?

উঃ পট আঁকাটাকেই আমি বেছে নিয়েছি কারণ এর চাহিদাও বাড়ছে ধীরে ধীরে। এছাড়া আমার বাবার অনুপ্রেরণা তো আছেই। এর সাথে সাথে মূর্তি গড়ার কাজে দাদাদের সাহায্য করি। ঠাকুরের



ভাস্কর চিত্রকরের আঁকা

Frida Kahlo এর আঁকা

তখন আমার কাজ দেখাই।

প্রঃ চিত্রকরের আগে আপনাদের কী পদবী ছিল?

উঃ আমি জ্ঞানত অবস্থা থেকেই চিত্রকরই শুনে আসছি। আমার বাবার সময় থেকেই চিত্রকর নামে পরিচিত সবাই। এবার, একেবারে আগে কী ছিল সেটা আমি বলতে পারব না। আমার দাদুও এই নামে পরিচিত ছিলেন, তাঁর নাম ছিল কচিনাথ চিত্রকর। বাবার মুখে শুনেছি দাদুর বেশিরভাগ কাজ ছিল লাহোরে। দেশভাগের আগে দাদু প্রায়ই লাহোরে যেত। তখনকার দিনে রাজবাড়ির দেওয়ালেতে সব বর্ডার আঁকা হত এবং জানলার পাশে আলপনা আঁকা হত। আমার দাদু ওগুলো খুব সুন্দর করে করতেন।

প্রঃ বাঙালিয়ানা ছাড়া আপনার ছবিতে বিদেশি চিত্রও কালীঘাট স্টাইলে রূপ পায় - এ বিষয়ে কিছু বলুন?

উঃ এটা যেমন Frida Kahlo মেক্সিকান আর্টিস্ট। উনি ওনার ছবি নিজেই আঁকতেন। Tejas Art Gallery থেকে আভান দেসাই আমাকে এসব নতুন ধরণের ছবি আঁকান। Frida Kahlo উনিই আমাকে করিয়েছিলেন। আমার আর একটা Frida Kahlo আছে। এগুলো তোমরা সব ছবি তুলে নিয়ে যাচ্ছ, ইন্টারনেটেও এরকম সব ছবি পাবে। ওগুলোকে পাশাপাশি রেখে মেলালে বুঝতে পারবে।

প্রঃ এই ভাবনা কি সম্পূর্ণ আপনার নিজস্ব?

উঃ হ্যাঁ, কিন্তু ওনার ছবি দেখেই করা। কপি করা কিন্তু আমার কালীঘাট স্টাইলে করেছি আমি। দুটো ছবি সামনে, পাশাপাশি রেখে দেখলে বোঝা যাবে কোনটা ওনার সৃষ্টি আর কোনটা আমার।

প্রঃ আগেকার পটচিত্রের থেকে এখনকার পটচিত্রের চাহিদা বৃদ্ধির একমাত্র কারণ কী আধুনিকতা?

উঃ আধুনিকতা মুখ্য কারণ হলেও একমাত্র কারণ নয়। যেমন - আমার ছবি অনেকেরই খুব ভালো লাগে, অনেকেই সুন্দর বলে। সবাই বলে কাজটা খুব পরিষ্কার, খুব নিট কাজ। প্রত্যেকের মুখেই এই নিট্ শব্দটা খুব শুনি আমি। আর তখনকার মানুষরা সবই প্রায় খুব গরিব ছিল, মানে রঙ কেনারও পয়সা থাকত না। ওই দুটো তিনটে রঙের মধ্যেই ছবি আঁকা হত। তখন ঠিক মতো সংসারই চলত না। ওই কোনো রকমের ছবি এঁকে কালী মন্দিরে বসল, যা বিক্রি হত তা দিয়েই সংসার চলত। তখনো এখানে ঠাকুর গড়ার কাজ শুরু হয়নি, শুধু দেবদেবীর ছবি আঁকা হত। তারপর ধীরে ধীরে যখন বাবুদের ক্যারিকেচারগুলো ঢুকল তখন সেটা নিয়ে ছবি আঁকা শুরু হল। সাহেবরাও সেটিকে সাধুবাদ জানিয়ে বলেছিলেন যে অসাধারণ। এ পটচিত্র তখন সাহেবরাও কিনত। ধীরে ধীরে কালীঘাট খুব বিখ্যাত হয়ে গেল। একারণে বাবুদের ছবি আঁকাই এখন বিখ্যাত হয়ে গেছে। যেমন তারকেশ্বরের ‘মহন্ত’র ঘটনাটা বেশ বিখ্যাত হয়েছিল।

প্রঃ মহন্তের ঘটনা নিয়ে আপনার কোনো কাজ আছে?

উঃ না, ওটা আমি করিনি। ওগুলো করা আছে বলে আমি আর ওগুলোতে হাত দিইনি। এখন সব সময় ভাবি নিজে নতুন কি করবো। মহন্তের ছবি তো পটেই আছে, তাই আমি এখন আর কপির দিকে যাই না। আমি এখন নতুন ভাবে ভাবি,

প্রঃ অর্ডারের জন্য যে দুই-তিনবার করে ছবি আঁকেন তাতে একটু হলেও তো তফাৎ থাকে? এতে গ্রাহকদের কি প্রতিক্রিয়া হয়?

উঃ তা একটু তফাৎ তো থাকবেই এবং সেটা আমি আগে থেকেই গ্রাহকদের জানিয়ে দিই। কোনো ছবি প্রথম আঁকার পর দ্বিতীয়বার যখনই করব তখন সেটা কখনোই পুরোপুরি কপি হয় না একটু পার্থক্য থেকেই যায়। কোনো আর্টিস্টের পক্ষেই সম্ভব নয় একবার কিছু আঁকার পর দ্বিতীয়বার আবার হুবহু সেটা আঁকা, কিছু না কিছু খুঁত থেকেই যাবে। ভালোও হতে পারে আবার তুলনায় খারাপও --- সেটা গ্রাহকরা বলতে পারবে, কারণ আমি তো আর ছাপছি না, হাতে করছি।

প্রঃ এ বাড়ির পরবর্তী প্রজন্মের কোন চিত্রকরকে পাওয়া যাবে আবার?

উঃ ওটা আমি কি করে বলব? এখন আমার কাজ আমি করে যাচ্ছি। আমার ভাইপো আছে কিন্তু ও এখন ছোটো। ওকে আঁকতে বলি কিন্তু সে বিষয়ে ওর তেমন কোনো মনোযোগ দেখি না। তাই আমি জানি না ও কি করবে। ওর মতো বয়সে আমি সবসময় ছবি আঁকতাম। আকাশবাণীর মাঠে ক্রিকেট খেলতাম এবং ওখান থেকে ফেরার সময় পার্কস্ট্রিটে নেমে গভমেন্ট আর্ট কলেজে ঢুকে কাজকর্ম দেখতাম।

শুধু ছবি নয় স্কাল্পচার কিভাবে করছে, ওর গঠন কিভাবে করছে সব জানলা দিয়ে দেখতাম। এই যে তুমি বসে আছ মাটি পেলে কুড়ি-পঁচিশ মিনিটের মধ্যে তোমার মুখের আদল গড়ে দেব। ওখান থেকেই স্কাল্পচার শেখা আমার। তারপর এখন মাঠেও যাওয়া হয় না কলেজেও যাওয়া হয় না।

প্রঃ একজন পটচিত্রশিল্পী হিসাবে আপনি কি স্বপ্ন দেখেন?

উঃ সবার মতো আমিও চাই আমার কাজ আরও ছড়াক দেশ-বিদেশে। আমার কাজ যেন সব জায়গায় গিয়ে পৌছায় এই আমার ইচ্ছা। এই যে আমার ছবি দেশ-বিদেশে যায় এইটাই আমার ভালো লাগে। মানুষজন ঘরে আসে এইটাই ভালো লাগে। আমি কাজ করেই যাব এতে যদি ভালো হয় তো হবে, কারণ ভালো তো সবাই চায়।

প্রঃ শিল্পের চাহিদা বৃদ্ধির সাথে সাথে কি সাধারণ শিল্পীরাও তাঁর প্রাপ্য মর্যাদা পাচ্ছেন?

উঃ আমার দিক থেকে বলছি আমি যতদুর ঘুরে দেখেছি দাম সবাই সঠিক পাচ্ছে। যেমন - বিশ্ববাংলা সংস্থা ওরা দাম ঠিকই দেয়। আমার ছবিও ওরা কিনেছে, আমি যা দাম বলেছি তাই দিয়েছে। অন্য পটুয়াদের ছবিও ওরা কেনে দামে কখনো খামতি রাখে না। দাম সবাই সঠিকই পায় তাও যদি কেউ একথা বলে থাকে যে দাম পাচ্ছে না, তবে বলব ভুল বলছে। আমার ছবি আমি দুই-তিন হাজারে বিক্রি করেছি, এবার যদি আমার লোভের কারণে দাম আরও বাড়িয়ে দিই তাহলে সেটা ঠিক না। কারণ যে কিনছে তার দিকটাও আমাকে ভাবতে হবে। প্রত্যেক ছবি প্রত্যেক মানুষের ঘরে যাবে এটাই সবচেয়ে আনন্দ। এবার কেউ যদি বলে দাম পাচ্ছি না, তবে কিছু বলার নেই কারণ আমি আমার ছবি বিক্রি করে ভালো দাম পাই।

প্রঃ পটচিত্র শিল্পী হিসাবে গর্বিত হওয়া এমন কোনো ব্যক্তি অভিজ্ঞতার কথা যদি বলেন -

উঃ আমার ইচ্ছা আছে বিদেশে একবার ঘুরতে যাব। ২০০৫ সালে লন্ডনে যাওয়ার কথা ছিল আমার একটা শো এর জন্য, কিন্তু সেই প্রোগ্রামটা ক্যান্সেল হয়ে যায়। মমতা ব্যানার্জী ওই প্রোগ্রামটায় গিয়েছিল আমারও যাওয়ার কথা ছিল, এমনকি সব কাগজপত্রও তৈরী ছিল, কিন্তু

ক আছে আবার পরে হবে

বিশেষ)

?

নাম ঃ তিয়াসা মোদক, প্রথম বর্ষ, বাংলা বিভাগ

কলেজের নাম ঃ শ্রী শিক্ষায়তন কলেজ

১। পট আঁকার প্রকৃত শব্দ কী

ক) কাগজ খ) মাটির পাত্র ✓ গ) কাপড় ঘ) জানি না।

২। পট কয় ধরনের হয় ?

জানি না

৩। পট আঁকার ক্ষেত্রে নীল রঙ ভেষজ থেকে সংগ্রহ করা হয় সেটি কি ?

ক) অপরাজিতা ফুল খ) শিম পাতা গ) ভুষোকালি ✓

৪। হারিয়ে যাওয়া পট চিত্র কী আবার ফিরিয়ে আনা হচ্ছে ?

ক) হ্যাঁ ✓ খ) না গ) জানি না

৫। মূল পটুয়া শিল্পের সাথে কালীঘাটের পটের কোনো পার্থক্য আছে কী ?

না

৬। এর মধ্যে যামিনী রায়ের ছবি কোনটি ?

ক) সূর্যমুখী ফুল ✓ খ) গণেশ জননী গ) মোনালিসা ঘ) কোনোটিই না

৭। গাজীর পট কোন ধর্মের অন্তর্গত

ক) হিন্দু খ) ইসলাম গ) বৌদ্ধ ঘ) জানি না ✓।

৮। বর্তমান একজন পটচিত্র শিল্পীর নাম লেখ।

জানি না।

৯। পটের ইংরাজী প্রতিশব্দ কী ?

জানি না।

১০। হারিয়ে যাওয়া পটচিত্রকে বাঁচিয়ে রাখার উপায়গুলি কী হতে পারে বলে তোমার মনে হয় ?

i) পটুয়া শিল্পীদের ফিরিয়ে আনা।

ii) পট বিষয়কে নিয়ে এগিয়ে রাখা।

COMPARATIVE ACCOUNT OF ACETIC ACID CONTENT IN DIFFERENT TYPES OF VINEGAR

Summer project (2016-17) undertaken by Chemistry Department :
Neesha Sharma, Sneha Shaw, Farha Bint Alam and Tuba Naaz (3rd Year, B.Sc., General)

Introduction

Vinegar is a household name. Vinegar is used in almost all kitchens worldwide and also in India. With the introduction of different kind of cuisines in our lifestyle it has become as common a condiment as tomato sauce and pickle. The vinegar that is most widely used is non-fruit vinegar, which is essentially diluted acetic acid. There are several companies which make and market this type of vinegar. But a quick look around any supermarket specially in the aisle of international food will show us that it is not the only kind of vinegar available. The aim of this project is to find the acetic acid content in the different kinds of vinegar and to give a plausible explanation to the difference in their acetic acid content, if any. This project also aims to gather knowledge about the different kinds of vinegar and their difference in terms of manufacture, raw material, uses and region of origin.

Methodology

Different kinds of vinegars were brought from Spencers, in Mani Square Kolkata. Non fruit vinegar of four different manufacturers were brought:

Spencers,

DRUK

DMV

Natural Garden- a brand made in USA. Apart from this

Apple Cider Vinegar from Natural Garden

Red Wine Vinegar

White Wine Vinegar was bought. Apart from this,

Weikfelds Chilly Vinegar

Weikfelds Spicy Vinegar was also bought.

The acetic acid content of these vinegars were determined by acidimetric titration, using phenolpthalien as indicator.

Apple cider is the name used in United States and parts of Canada for unfiltered, non-alcoholic beverage made from apple. It is used in salad dressing, marinades, food preservatives and chutneys among other things. It is made by crushing apples and squeezing their liquids out. Bacteria and yeast are added to it to start the alcoholic fermentation process, and the sugars are turned into alcohol. After the fermentation process, the alcohol is converted into vinegar by acetic acid forming bacteria Acetobactor. Acetic acid and Maleic acid gives vinegar it's Sour taste.

Healthe benefits -The most popular vinegar in the International health community is Apple cider vinegar. It has claimed to have all sorts of benefits some of which are supported by science. This includes weight loss,lower blood sugar levels and improved symptoms of diabetes. The six most important health benefits of apple cider vinegar by scientific research are

1. high in acetic acid which has potent biological effects . vinegar is made in a two step process. the first step exposes crushed Apple to yeast which ferment the sugar and turn them into alcohol. In Second step bacteria are added to the alcoholic solution which further ferment the alcohol and turns it into acetic acid, the main active compound of vinegar. organic unfiltered apple cider vinegar also contains, strands of proteins, enzymes and friendly bacteria.

   ACV only contains about 3 calories per tablespoon, which is very low. There are not many vitamins or minerals in it but it contains a tiny amount of potassium. Quality ACV also contains amino acids and antioxidants.

2. It can kill many types of bacteria- Vinegar can kill pathogens including bacteria. it has traditionally been used for cleaning and disinfecting, treating nail fungus, lice, warts and ear infection. Hypocrites the father of modern medicine used vinegar for cleaning of wounds over 2000 years ago. Vinegar has been used as a food preservative and studies show that it inhibits bacteria like E.colifrom growing in the food and spoiling it. It helps in removing acne when applied on skin.

3. Lowers blood sugar level and fights diabetes - Type II diabetes is characterised by elevated Bloodsugars, either in context of insulin resistance or an inability to produce insulin. The most effective way to keep blood sugar levels stable is to avoid refined carbohydrates and sugar but ACV may also have a powerful effect. This vinegar benefits insulin function by improving insulin sensitivity during a high carbohydrate meal by 19 to 34 %. Reduces blood sugar by 34%when eating 50 g of white bread, 2 tablespoons of apple cider vinegar before bedtime can reduce fasting blood sugar by 4%

4. It helps in weight loss also. Several studies suggest that vinegar can increase sateity, helps eat fewer calories and even lead to actual pounds loss of weight on the scales. Vinegar along with high carb meals increases feelings of fullness and make people eat 200 to 275 fewer calories for the rest of the day. A study in obese individual showed that daily vinegar consumption helped to reduce belly fat , waist circumference, lower blood triglycerides and weight loss in 12 weeks.

5. Lowers cholesterol and reduces risk of heart disease – cardiovascular disease is currently world's biggest cause of death. ACV contains the antioxidant chlorogenic acid which protect the LDL

risk of cancer and slow or inhibit the growth of cancerous tumours. Red wine vinegar also contains polyphenols which are compounds from plants that act as anti-oxidants to reduce cell damage caused by environmental factors.

White wine vinegars

Like Redwine vinegar the white wine vinegar also contains fewer calories but packs a lot of flavour. It lowers cholesterol and triglyceride levels. Because white wine vinegar has a neutral taste, it can be paired with a variety of foods. It is used to add a bit of acidity to foods or to make salad dressings . since white vinegar is purified and distilled and because of high acid content it well suits to make pickles mustardand canned foods .

Non-health benefits – in addition in addition to several health benefits wine vinegar offers some non-health benefits. According to vinegar institute it acts as a herbicide and kills weeds and invasive plants. Unlike chemical pesticide, it does not contribute to air and water pollution. It also serves as a natural disinfectant for cleaning inside the home and out. It is our low-cost, eco-friendly alternative to chemical spray and cleaners.

Side effects of wine vinegar –

1. Hypokalaemia - it means lower than normal level of potassium in the bloodstream . excessive ingestion of wine vinegar leads to hypokalaemia. The symptoms are weakness, muscle cramps and fatigue.

2. Osteoporosis – it is a condition in which the bones become weak and brittle and easily fractures. It is due to low calcium content in the bones. When excessive wine vinegar is ingested it interferes with absorption of calcium from stomach.

3. Hyperreninemia- this is a condition in which there is a elevated renin level in the blood stream it leads to hypertension and kidney dysfunction.

Thus vinegar optimise the taste of salad, gives us many health benefits but we should carefully check in the use as excessive of anything is bad and vinegar should also be used in moderation without having to worry about its side affects.

There are many other types of vinegar which were not included in the study, mainly due to its unavailability in the local and online market.

Other Types of Vinegar

Balsamic vinegar

Rice vinegar

Malt vinegar

the harmful chemical residue of pesticide that may have been used during the growing.

Beer Vinegar- Vinegar made from beer is produced in the United Kingdom, Germany, Austria and Netherlands.

Its flavor depends on the particular type of beer from which it is made. It is often described as having a malty taste. The one produced in Bavaria is light golden colour with a very sharp taste.

Coconut Vinegar- It is used extensively in south east Asia, India and Srilanka.

Coconut tree grows in nutrient rich, often time volcanic soils, which allows the coconut flowers to produce a sap that is low glycemic and has practically neutral pH. The sap is aged for months to a year during which time it naturally ferments. It is then delicately harvested and bottled as vinegar, a mixture with incredible health benefits like other coconut products.

Uses:

Used as salad dressing and marinades

Used for beauty benefits and used a a cleanserand toner which kills bacteria thus preventing acne.

It is used in south Asian cuisines, especially in India and Srilanka, like in Goan cuisine.

Cane Vinegar- It is made from sugarcane juice, is most popular in Philippines, in particular in the northern region. A white variation has become quite popular in Brazil.

Two ways of producing cane vinegar is generally practiced. One way is to simply place sugarcane juice in large jars till it becomes sour by direct action of bacteria and sugar. The other way is through fermentation to produce a local wine known as Basi. Low quality base is then allowed to undergo acetic acid fermentation that converts alcohol into acetic acid. Contaminated Basi also becomes vinegar.

Use:

It is used in pickling

It is used in Japan to inhibit the growth of leukemia.

It helps to get rid of stones in bladder, urinary problems, and vision problems.

Raisin Vinegar-As the name implies it is made from raisins. It is called "khall" in Arabic and is used in different customs in Middle east. This vinegar is also produced in Greece. It is a mild tasting, cloudy brown vinegar made from raisins.

Uses- It is used in salad dressings

It is used with cinnamon to bloster its flavor in middle eastern cuisines.

Table 2:-Titration of DNV White Vinegar with NaOH using phenolphthalein as indicator

No. of obs.	Volume of Vinegar (ml)	Volume of NaOH (ml)	Mean Volume (ml)	Strength of NaOH used	Strength of acetic Acid (N)
1.	2	14.8		0.075 (N)	0.554 (N)
2.	2	14.7	14.77		
3.	2	14.8			

Table 3:-Titration of Weikfield Chilli Vinegar with NaOH using phenolphthalein as indicator

No. of obs.	Volume of Vinegar (ml)	Volume of NaOH (ml)	Mean Volume (ml)	Strength of NaOH used	Strength of acetic Acid (N)
1.	2	17.3		0.075 (N)	0.65 (N)
2.	2	17.4	17.33		
3.	2	17.3			

Table 4:-Titration of White Wine Vinegar with NaOH using phenolphthalein as indicator

No. of obs.	Volume of Vinegar (ml)	Volume of NaOH (ml)	Mean Volume (ml)	Strength of NaOH used	Strength of acetic Acid (N)
1.	2	26.8		0.075 (N)	1.008 (N)
2.	2	26.9	26.87		
3.	2	26.9			

Table 5:-Titration of DRUK Synthetic White Vinegar with NaOH using phenolphthalein as Indicator

No. of obs.	Volume of Vinegar (ml)	Volume of NaOH (ml)	Mean Volume (ml)	Strength of NaOH used	Strength of acetic Acid (N)
1.	2	19.6		0.075 (N)	0.734 (N)
2.	2	19.5	19.57		
3.	2	19.6			

Table 10 :- Titration of American Garden Natural Vinegar(Apple Cider) with NaOH using phenolphthalein as indicator

No. of obs.	Volume of Vinegar (ml)	Volume of NaOH (ml)	Mean Volume (ml)	Strength of NaOH used	Strength of acetic Acid (N)
1.	2	22.9		0.075 (N)	0.859(N)
2.	2	22.9	22.9		
3.	2	22.9			

Table 11

Serial No.	Type of Vinegar	Acetic Acid Content [Concentration in Normality/N]
1	DNV White Vinegar	0.554 (N)
2	DRUK White Vinegar	0.734 (N)
3	Spencer's White Vinegar	0.963 (N)
4	American Garden White Vinegar	0.843 (N)
5	American Garden Apple Cider Vinegar	0.859 (N)
6	Red White Vinegar	1.004 (N)
7	White Wine Vinegar	1.008 (N)
8	Spicy Vinegar	0.701 (N)
9	Chilly Vinegar	0.65 (N)

Conclusions:

1. White Vinegar of different companies vary in their content of acetic acid.
2. Wine Vinegars have more acetic acid than white vinegar.
3. Amongst the two wine vinegars, there is no appreciable difference in the amount of acetic acid.
4. Apple Cider Vinegar has marginally more acetic acid than the corresponding white vinegar of the same company. It might be due to the Maleic Acid from the apple.
5. Spicy and C hilly Vinegar has so difference in terms of acetic acid content, i.e the spices and chilly added to it does not contribute significantly to the acidity factor.

INDIA : NO MORE AN UNDER DEVELOPED COUNTRY

By Srijata Bagchi and Sohini Maity, B.Sc. 1st year, Economics Honours

Introduction

Eugene Stanley defined an underdeveloped country as, "A country characterized by mass poverty, which is chronic and not the result of temporary misfortune and obsolete methods of production and social organizations, which means that the poverty is not due to poor natural resources and hence could presumably be learned by methods already proved in other countries."

Prof. Jacob Viner is of the opinion that an underdeveloped country "is a country which has good potential prospects for using more capital or more labour or more available capital resources or all of these, to support its present population on higher level of living or if its per capita income level is already fairly high, to support a large population on a not lower level of living."

According to the UN group of states, "We have had some difficulty in expressing the term 'underdeveloped countries'. We use to mean countries in which per capita real income is low when compared with the per capita real income of the United States of America, Canada, Australia and Western Europe. In this sense an adequate synonym would be poor countries."

The Planning Commission of India offered a definition of underdeveloped country, as one "which is characterized by the co-existence, in greater or lesser degree, of unutilized or under-utilized man-power on the one hand and of the unexploited natural resources on the other."

The top ten underdeveloped countries according to the UN report are: [in descending order]

- Mozambique
- Guinea
- Burundi
- Burkina Faso
- Eritrea
- Sierra Leone
- Chad
- Central African Republic
- Democratic Republic of Congo
- Niger

- Although the national income of India had increased during the plan periods, it was not distributed properly among different sections of society. The sixth 5 Year Plan Document showed that the top 10 per cent of the rural households owned about 51 per cent of the rural assets and the bottom 30 per cent had only 2.5 per cent of rural assets. This indicated a huge gap in the distribution of income and wealth. This situation remained almost unaltered in 1971 also.
- The rapid growth in population along with inadequate job opportunity resulted in unemployment and underemployment situation in India. The problems of disguised and seasonal unemployment in the agricultural sector arise due to high number of farmers in comparison to the cultivated land they are working on. The latter occurs due to the absence of good irrigation and subsidiary occupational opportunities. The problem of high unemployment among educated and skilled workers in urban areas has also increased in India during the plan periods. Due to these reasons the rates of unemployment and underemployment keep increasing and are difficult to be done away with.
- Another major problem the Indian economy suffers from is low levels of technology and skill-formation. The low productivity in Indian agriculture and industries are largely a reflection of technological backwardness. Although the application of modern technology has increased considerably yet it remains insufficient in Indian industries. This is mostly due to expensiveness of the techniques and equipments, considerable degree of skill for their application, inadequate capital, inadequate personnel and improper education.

An answer to the questions and problems raised so far on the principle characteristics of India as a less developed economy could be provided through the following:

- Despite more than six decades of planned economic growth around 40 per cent of the total population are still subject to extreme poverty. This section of society is deprived of the minimum standard of living and some of the bare necessity of life. This leads to the creation of a vicious circle of poverty as shown in the figure below.

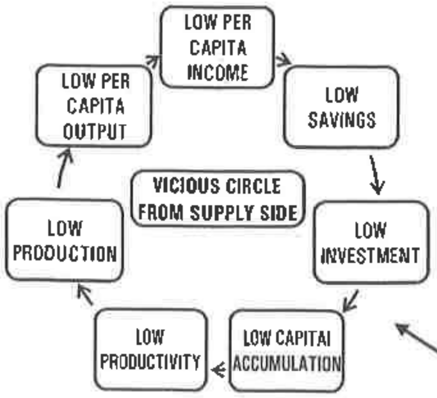


Fig. 1

and physical capability of the people would mean an increase in human capital because this enables more production.

When we review the condition of India over the years, from after independence to recent times, then we see how economic underdevelopment transforms into economic growth and it is only then that the dynamic characteristics of India's developing economy that become prominent. This can be explained by the following:

- Economic growth measured in terms of GDP has always remained one of the principle objectives of India's 5 Year Plans. The drastic increase of India's GDP from the period after independence to the present times has been great. The annual compound growth rate and per capita NNP increase was from 3.6 per cent and 1.80 per cent in the First Plan to 6.7 per cent and 4.6 per cent respectively during the Eighth Plan.
- The structure of National Income that is the contribution of different sectors in the National Income of India has also changed since the Plan Periods. The contribution of the primary sector to the National Income declined from 55 per cent to 27 per cent from 1950-51 to 1999-2000. This shows the economic shift and dependence from agriculture to industrialization which is a part of the secondary sector.
- At the beginning of the Plan Period, gross domestic savings and gross domestic capital formation remained only 8.9 per cent and 8.7 per cent respectively. By the end of the Eighth Plan these rates have increased up to 23 per cent and 24 per cent respectively.
- In 1950-51 total production of food grains was only 50 million tonnes approx. which increased to 209 million tonnes in 1990-2000. The average yield of food grains per hectare also increased from 872 kg to 1,697 kg during that period. Another important achievement in this field would be that the per capita net availability of food grains per day increased from 395 grams to 466 grams from 1951-2000.
- The industrial structure has been widely diversified covering broadly the entire range of the consumer and capital goods industry. India has attained self-sufficiency in almost all consumer goods. Growth of capital goods production has been especially impressive industrial capacity has increased substantially in mining and metallurgical industries, chemical and petrochemical industries, fertilizers and various other capital goods industries.
- When we talk about changes in the Indian foreign trade over time we notice that both export and import structures have changed in India since the Plan Periods. There has been a continuous decline in the importance of agriculture and allied products in Indian exports. For example in 1960-61 the agricultural share in total export earnings was about 44 per cent which declined to 15 per cent in 1999-2000. On the other hand the share of manufactured items in our export earnings increased from 45 per cent to 32 per cent during the same period.
- Several steps were taken to counteract the problem of poor health and educational facilities which had led to unemployment and underemployment in the earlier years. The Government of India extended health facilities to the maximum number of people by increasing the number of primary health centres from 725 in 1951 to 22,002 in 1997. Further the number of hospitals was increased from 2,694 in 13,692 in 1992. Due to all this the average life expectancy at birth

REPORT ON A SURVEY ON USAGE OF LIBRARY FACILITIES

By - Arwa Limdiwala, Sreshtha Gupta, Tanya Jaiswal.
BA 2nd year Education Honours

Introduction

All around the world every organisation or institution has objectives to achieve which is not possible without systematic resources which facilitate the progress of performance in all activities and help to accomplish the goals and objectives. Such resources in an educational institution include library which nurture the development of the individual to prosper in their life.

A library of 21st century are just not the storehouse of knowledge but an effective mechanism to facilitate the dissemination of knowledge, promoting information and knowledge sharing while at the same time supporting the growth of knowledge and the achievement level of the student.

Collection of information resources in print or in other form that is organised and made accessible for reading or studying is called a library.

Library is not only a rich source of books, or a comfortable place for extra reading but also a treasure house of knowledge and an absorbing centre for inquisitive mind. It preserves the great thoughts, the beautiful imaginations and the accumulated wisdom of ages. Libraries preserve knowledge so that none is lost, organise knowledge so that none is wasted and makes knowledge available so that none is deprived.

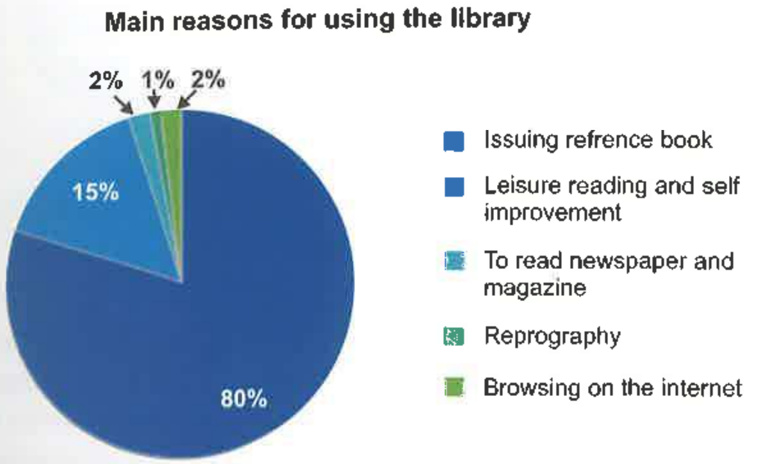
Library is the centre of intellectual life of an educational institution. It has sources of information available at all times for reference. It provides light literature for passing time and entertainment. It also provides a quiet place and an environment which encourages reading and studying. It is much more than distributing books. It provides stimulating, inspiring and comfortable atmosphere for studies. It is rather an alive workshop as it broadens the horizon of individual.

Functions of a library

A library promotes self study and self education. It supplements classroom work by providing opportunity of wider independent study. Library broadens the field of interest and the area of information. It places before the students a rare masterpiece and rich sources of wisdom giving authentic information to students and developing study habits in them as library introduces silent reading, reading for pleasure, etc. Libraries have necessary procedure and rules which help students to learn, handle costly and precious books and keep them unspoiled. It also provides an opportunity for the right and productive use of one's leisure time which channelise our time and energy in right direction which otherwise would be wasted inculcating the power of new ideas and new arguments through books. It also enhances the imagination power, language ability and power of expression helping students for preparation for various activities likes debates, quiz, etc. Library helps individual to escape boredom and worry as books are a true companion in loneliness and in the state of stress

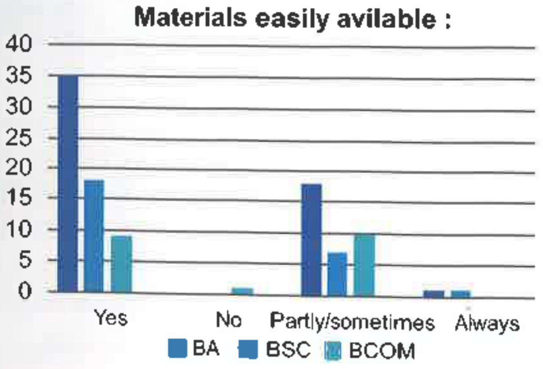
Findings

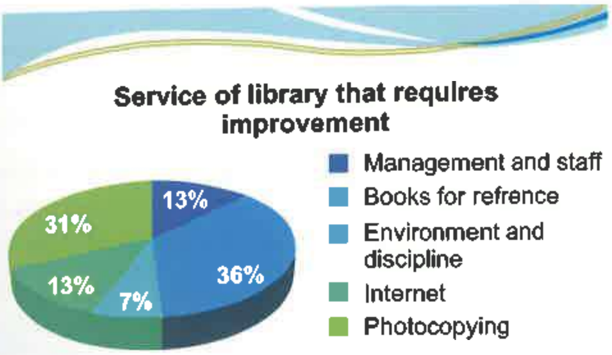
The first question was based on the purpose and reason for using the college library



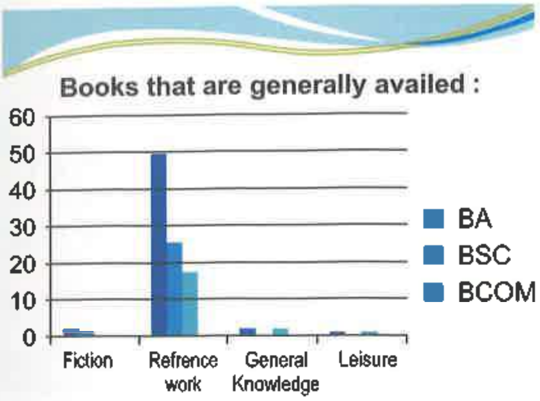
where we found that, 80% of students use library for issuing books for reference, 15% of the students use library for leisure reading and self improvement, 2% of students use to read newspaper and magazines, another 2% use for browsing internet and 1% of students use it for reprography services.

The second question was based on whether the materials are easily available to students or not where we found out that, BA students were mostly satisfied as compared to other departments as 35% of BA students whereas 19% of BSc. and 9% of BCom students always met their requirements.

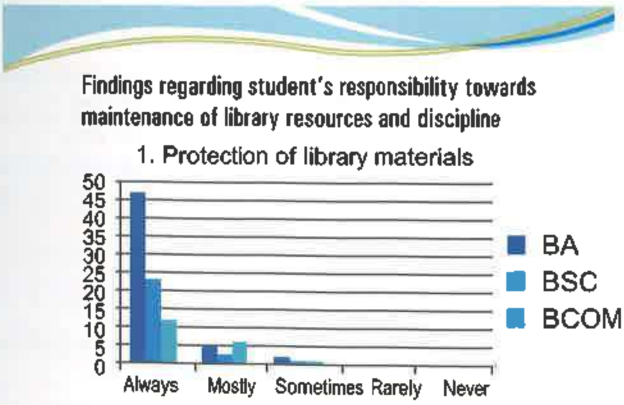




The next question asked about the types of books availed by the students where we found out hat, 49% of students of BA department avail reference books as compared to 25% BSc. students nd 15% to Bcom students.

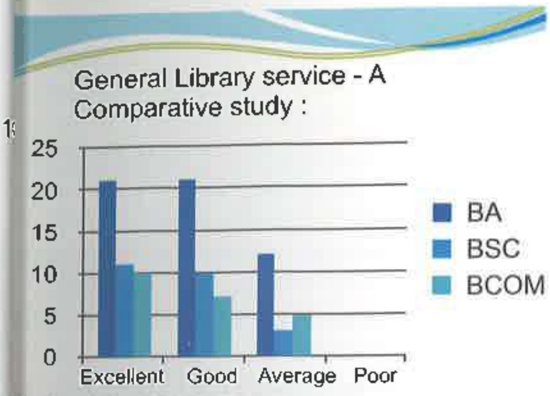


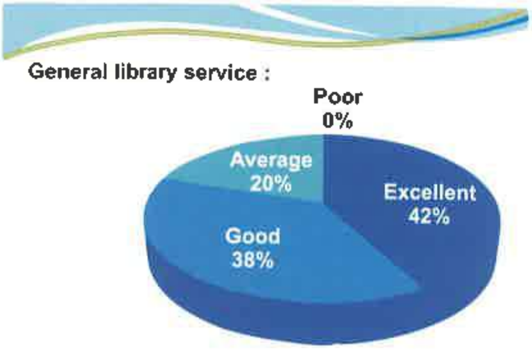
The next question was about the role of students towards the maintenance of library resources nd discipline where we found out that, 45% of BA students protected library materials as compared o 22% of BSc. students and 11% of BCom students.



The next question asked students whether they are members of any other library apart from our ollege library where we found out that, 11% of students were members of other libraries as well apart om the college library whereas 89% of students were only members of the college library.

The last question was asked to know the satisfaction level of the students from the services rovided by the college library where we found out that, 42% of students rated excellent for the brary, 38% of students rated good and 20% rated average for the services provided by the library. here were no negative comments for our college library.





tudents' suggestions

But there is always scope for **improvement** which was suggested by the students to enhance ur library further which included the following ;

To encourage blogging, 2. To manage noise better, 3. Faster internet facilities, 4. Maintenance of ooks, 5.Addition of more fiction, 6.Replacement of worn out books with new ones, and 7.Improving hotocopying services.

ther facilities

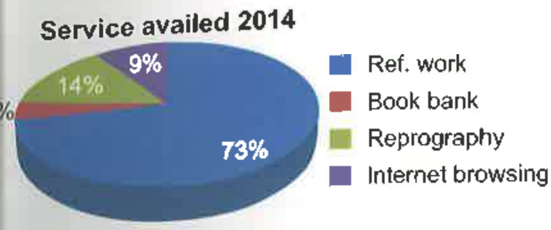
There are a few important facilities provided by our college library compared to other libraries hich includes open access system to all, connectivity to good internet, computerized entry and exit ystem which is usually done manually in other libraries, awareness of latest books according to the equirements and the organizing of book talks and book exhibition at regular intervals which is not itnessed frequently in other libraries.

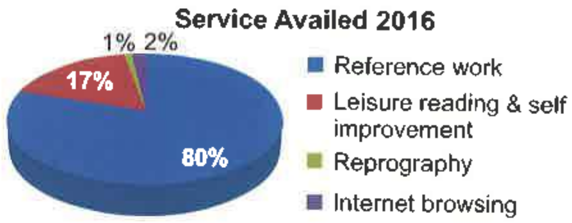
A comparative study of student usage with regard to services and books availed, pproachability of staff and frequency of visit, with an earlier survey conducted in 2014-15

A survey on library usage by students was conducted earlier in the session 2014-15. A few omparisons were made with the results of the present survey.

ample size : 2016-17 : 100

2014-15 : 117





Conclusion

To sum up, certain trends have been found with regard to library usage among the students of Shri Shikshayatan College such as using the college library mostly for reference work rather than for pleasure reading or internet browsing and that the students are in general satisfied with the availability of books and library services. As per our study, students of BA stream have been found to be more responsible in terms of maintenance of library resources and discipline as compared to BSc and BCom students. But frequency of visit to the library needs to be augmented for all students, particularly for BCom students. Another significant trend revealed by this study is that the public library as an agency for dissemination of knowledge has lost its popularity among the students as the majority of the sample has reported that they do not visit any library other than the college library.

When we compared the data collected for our present study in 2016-17 with those of the previous study conducted in 2014-15 we noted some positive trends. There has been a steep increase in the frequency of visits to the college library, students are now more satisfied with the approachability of the library staff than before. Using the library for reference work still dominates as it used to be in 2014-15. Availing the facility of internet browsing was not popular among the earlier batch, even now it is not. Reprography service provided by the college library needs improvement – a feature reported in both the studies.

In conclusion we would like to make a remark to our fellow mates that a library is a space ship that will take you to the farthest reaches of the universe. It is a time machine which will take you to the far past and to the far future. It is a friend who will amuse and console you and most importantly it is a gateway for a much happier, better and useful life. Earlier, people were more inclined towards reading books. Reading would refresh them incredibly and they would always look forward to it. But with the emergence of new trends of audio-visual media catching the eyes of the population there is a complete change or a make over in the reading attitude of elders as well as the youths who prefer now to watch the various online and offline audio-visual aids than carry an actual book to read. The declining rates of reading books and the preferences of audio-visual aids is drastic and unimaginable which is both fortunate and unfortunate for the future of the individual as well as the society.

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Report Presented at the Inter College Students' Seminar on 'Educational Planning and Management' held on 20.2.17(PPT by Pratyusha, 2nd Year student) ■

The concept of 'New Homophobia' which emerged in the early modern period and affected the so called scholarly readership, is particularly evident in the twentieth century heterosexualisation of the Urdu ghazal[1]; its effects are visible both in modern India and the west, where any homosexual subtext whatsoever, is either interpreted as heterosexual or dismissed altogether, the transgender community belittled, impoverished, and practically outcast.

This paper aims to provide an assurance to the LGBTQ community of the possibility of finding representation in the grandeur of mythological characters and events; it also asks readers, who are not necessarily homosexually inclined, that they must consider the LGBTQ community to be their own community as some of their ancestors might be so inclined. We can only hope that such acknowledgement will turn out to be the sine qua non of weaving a less ignorant and conflict-ridden, more tolerant, and well-informed society that champions an all-inclusive world view.

Gender Fluidity, Queer-Gender and Transgender Identity in Mythology

Mythical stories encompassing different nations across the globe incorporate the theme of gender fluidity and transgender identity as symbols of sacred or divine experiences. Stories share instances of Gods or Goddesses changing their gender temporarily or permanently for their sexual conquests; they even work as the deus ex machina for the mortals in granting them their true gender identities and ergo, legitimize the desired sexual relationships which had hitherto been repressed by societal restrictions as in the story of Sumedha and Somavan in *Skanda Purana*. Two friends in order to obey the king attend the invitation of a low caste woman devotee, Simantini, but one of the male friends must assume the disguise of a woman. She, however, sees through the disguise, but instead of denouncing him (Somavan) chooses the Goddess Parvati in him; by perceiving the 'womanhood' in him, she makes it manifest. Furthermore, she brings out into reality the latent possibilities of the union of Sumedha and Somavan (now, Samavati, as granted by Shiva and Parvati) by choosing to worship a male couple as a sexual and conjugal unit. There are myths that relate Gods or any powerful being, for that matter, to be genderless or hermaphrodite. The Norse God Loki for example, is capable of changing sex at will. He is known to be a shape shifter and frequently disguises himself as a woman.

In this context, people inclined to alternative sexual behaviour are also expressions of "divine play" or leela. The Gods are often identified with ultimate reality where all opposites meet, thereby asserting the universality of God.

Shiva, for instance, is vastly identified with a series of opposites: 'Thou art male, thou art female, thou art neuter.' (*Mahabharata*, Shanti Parva I, Apadharmanusasana Parva CCLXXXV)

In *Mahabharata*, Shikhandini, who became Sikhandi is what modern queer vocabulary would

1 Scholars like Andalib Shadani and Mufti Muhammad Zafiruddin condemned Urdu poetry pertaining to male homosexual love as an 'ugly blot on Urdu's reputation' which must be purged from the canon.

Zeus, the promiscuous king of Mount Olympus Callisto, the daughter of Lycaon, King of Arcadia took a vow to remain chaste. At that moment, Zeus, maddened by love, disguised himself as Artemis (Diana) in order to lure her into his embrace.

The notion of gender complexity is deeply rooted in ancient Egyptian culture. In the Egyptian story of the creation of the gods, the first god is male and female, and its name is Atum.[3]

Some of the Norse gods were capable of changing sex at will, for example Loki, the trickster god is a shape shifter and in separate incidents he appears in the form of a salmon, a mare, a seal, a fly, and possibly an elderly woman. He is known to frequently disguise himself as a woman.

In Buddhist and Hindu traditions, gender itself is questioned. The philosophical basis of this questioning closely resembles the deconstruction of gender in our own times by such thinkers as Monique Wittig and Judith Butler.[4] What these philosophers would call the social constriction of gender that only appears to be 'natural,' ancient Indian philosophers call illusion that only appears to be 'real.'

In the *Vimalakirtinirdesa*, a Goddess when asked by monk Sariputra as to why she does not change her gender in spite of having the power do to so, she explains by turning him into a female and stating:

"Just as you are not really a woman, but appear to be a female in form, all women also appear to be female in form but are not really women, therefore the Buddha said all are not really men or women ..."

This repudiates the fixed notion of gender identity and affirms the idea that the self is not gendered, and there is no preconceived reality of gender.

HOMOSEXUALITY LOCATED IN MYTHOLOGY

There is a direct connection between the non reality of gender that Hinduism and Buddhism promoted in ancient times, and the non absoluteness of heterosexuality. If the two categories 'man' and 'woman' are not ultimate categories but rather fostered only by societal institutions (marriage, parenthood, etc.) then heterosexuality ceases to be the most important one.

3 Through asexual reproduction Atum creates two other Gods, Shu and Tefnut. These two in turn produce another pair, Geb and Nut. Finally, Geb and Nut, the earth and the sky, combine and produce the two pairs of Isis and Osiris, and Seth and Nephthys. In stories of these archetypal beings, Isis exemplifies the reproductive female, Osiris the reproductive male, Seth the non-reproductive eunuch and Nephthys the unmarried virgin.

4 In her book 'Undoing Gender' Judith Butler writes, "...when we speak about my sexuality or my gender, as we do (and as we must), we mean something complicated by it. Neither of these is precisely a possession, but both are to be understood as modes of being dispossessed, ways of being for another, or, indeed, by virtue of another."

seven swans. Ancient Brahmana texts furthermore associate Mitra and Varuna with the two lunar phases and same-sex relations:[7]

Varuna is similarly said to implant his seed in Mitra on the full-moon night for the purpose of securing its future waxing. In Hinduism, the new- and full-moon nights are discouraged as the apprpriate time for procreation and consequently often associated with "citrarata" or the unusual types of intercourse.

Similar depictions can be found in Egyptian myth of Nyankh-Khnum and Khnum-hotep. These two men shared a tomb wherein various art works depict them in close, intimate postures. They are depicted embracing in the same manner as heterosexual couples, which carry the same connotations of closeness in the context of sexual relations.

Agni, the God of fire is believed to be the son of two mothers, Heaven and Earth and is therefore born out of a lesbian relationship. Agni, in turn shared a physical relationship with Shiva that led to the birth of Kartikeya.

The Legend of Bhagiratha also documents themes of miraculous child birth. King Dilipa died leaving behind his two wives and an heirless throne in the kingdom of Ayodhya.The wives, then, engaged into a physical relationship as permitted by Brahma resulting in the birth of Bhagiratha. In a version Bhagiratha is believed to have been born as a lump of mass proving a preconceived notion of lesbian reproduction[8]. He was so named because he was born out of two bhagas, or valvus.

Similarly in the European mythology, the Greek goddess Artemis or Diana have relationships with many women including Britomartis, Cyrene, Atalanta and Anticleia. She loved the moon goddess Dictyanna and the nymphs Daphne, Amethyst, Taygete and Callisto.

Another account of lesbian relationship can be found in Sappho, a Greek lyric poet from the Lesbos, who in her 'Ode to Aphrodite' invoked Aphrodite, the goddess of lesbianism to win the love of a unnamed woman for whose attention Sappho was longing for Pallas was the lover of Athena and even fused with her, the pair becoming known as Pallas-Athena.

A more than likely fictional tale from the Egyptian mythology, either from the 18th, the 19th or the 25th dynasty, was of Neferkare , a pharaoh and Sasenet, one of his generals. The story goes that a man named Tjeti saw Neferkare walking somewhere during the night and decided to follow him. The pharaoh went to Sasenet's house, where he stayed for quite some time in the embrace of his lover before returning to his home. This process would then repeat itself. This tale alludes to the relationship

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7 ["Mitra and Varuna, on the other hand, are the two half-moons: the waxing one is Varuna and the waning one is Mitra. During the new-moon night these two meet and when they are thus together they are pleased with a cake offering. Verily, all are pleased and all is obtained by any person knowing this. On that same night, Mitra implants his seed in Varuna and when the moon later wanes, that waning are produced from his seed." (Shatapatha Brahmana 2.4.4.19)] - ft

8 The offspring of a lesbian relationship will result in a boneless child.

gave the account of Achilles and Patroclus in his play Troilus and Cressida as lovers. In the novels of Mary Renault the two males stand as a representation of non-effeminate comradely homosexual love.

The Song of Achilles by Madeline Miller shows development of a loving homosexual relationship between the two:

"I could recognize him by touch alone, by smell; I would know him blind, by the way his breaths came and his feet struck the earth. I would know him in death, at the end of the world." Patroclus

BISEXUALITY PERFORMED BY THE MYTHICAL CHARACTERS

Attempts at categorization in ancient texts often vary and thus, suggest that no one form of characterization was dominant. The confusion is perhaps endemic to all attempts at categorizing what is fluid and unrecognizable; between what is homosexuality and bisexuality and what heterosexuality means, there falls a shadow.

In the ancient days of Gods and Goddesses, or equally powerful beings, for the matter, bisexuality was less complicated although it often bridged the dichotomy between marriage favouring the societal condition and same sex relationship of free will.

In Hindu mythology, Agni had prominent relationships with both male and female counterparts. He was the father of Karna with Kunti and also of Kartikkeya with Shiva. Parvati on the other hand shared relationships with several women inspite of having a satisfactory conjugal life with Shiva, thus subverting the theory of Lacan[9]. In European mythology, Achilles and Zeus are examples of varied sexual preferences. The first woman in Achilles's life was Deidameida, the daughter of king Lycomedes. Goddess Thetis, the mother of Achilles sent him to live with the king's daughters in disguise of a girl to save him from going to Trojan war. Here, he fell in love with Deidameia and left her with a child.

In the *Arthashastra*, it is mentioned that in ancient time in India, while homosexual intercourse is unsanctioned, it is treated as a minor offence.[10] Hindu mythology constantly makes numerous references to queerness that are very much ingrained in the culture, yet with the advent of the 'New Homophobia', it is common to either deny the existence of such fluidity and variance in the stories, or simply heterosexualize it or to redirect to law books, which, even thousand years later, frown upon queer behaviour, besides endorsing patriarchy and casteism.[11]

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9 Lacan's theory states that female homosexuality issues from a 'disappointed heterosexuality.

10 Many types of heterosexual vagina sex are punishable much more severely; for example, the seduction or rape of a minor girl of equal caste is punishable with cutting off the man's hand or a heavy fine; if she dies, the man is to be killed.

11 The Hindu mythology establishes a fact that most of the male Gods in Hindu mythology have the urge to transform into a female form like Indra into Indrani, Shiva into Shivani, Vishnu into Vaishnavi, but there is no male form of Parvati, Lakshmi or Saraswati. This observation rather shows a tendency of 'womb envy' quite contradictory to the Freudian theory of penis envy establishing the urge of males to experience the pleasures of feminine beauty and the blessing of birth giving process

HOMOSEXUAL: One who romantically and/or sexually inclined to members of the same sex.

BISEXUAL: One who is romantically and/or sexually inclined to members of both male and female sex.

TRANSGENDER: A person whose sense of identity does not correspond with the gender assigned to them at birth.

QUEER THEORY: A term coined by the Italian feminist and film theorist Teresa de Lauretis, it is a field of post structuralist critical theory which focuses on any kind of sexual activity or identity that falls into normative and deviant categories.

GENDER STUDY: Gender study is a field for interdisciplinary study devoted to gender identity and gendered representation as central categories of analysis.

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CASE STUDY O

KOLKATA

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BENEFITS OF PUBLIC OPEN SPACE

Public open space within an urban area is readily available to the community regardless of its size, design or physical features and is intended for, primarily, amenity or physical recreation, whether active or passive (Kellet and Rofe, 2009). Public open space has the following benefits.

- It provides opportunity for physical activities
- It provides opportunity for passive recreation
- It is important for social and cultural interaction fostering community development
- It is ecologically important and plays an educational role
- It supports economic objectives and activities

AIM OF THE STUDY

Open space is an important component of urban areas and its varied public uses may be the key factors in promoting active urban living.

The purpose of the current study is to explore

- The nature of public use.
- The problems faced by users
- Their suggestions for upkeep and improvement of the open spaces

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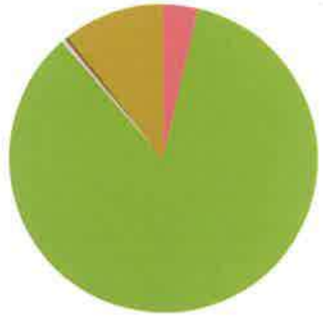
LOCATION MAP
SHOWING THE SELECTED OPEN SPACE IN KOLKATA METROPOLITAN AREA

PIE GRAPH
SHOWING

AREA OF PARKS



AREA OF WATERBODIES

INDEX

PARK

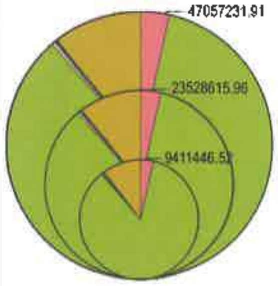
- P1-PARK CIRCUES MAIDAN
- P2-MILANI MATH
- P3-BENUBONO CHAYA
- P4-TALA PARK
- P5-KMDA PARK
- P6-NEW DIGHA AMUSEMENT PARK
- P7-ANANDAPURI PLAY GROUND
- P8-KALINAGAR
- P9-ECONEST

WATERBODY

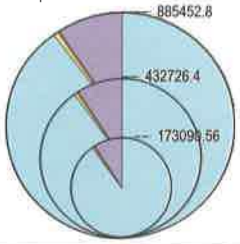
- W1 - DHAKURIA LAKE
- W2 - HEDUA
- W3 - NAWADAPARA
- W4 - GOVERNMENT COLONY POND
- W5 - KALINAGAR

GRAPHICAL SCALE

PARK (IN METRE QUUARE)



WATERBODY (IN METRE QUUARE)



LEGEND

MUNICIPALITIES

1 - BARRACKPORE
2 - KAMARHATI
3 - SOUTH DUMDUM
4. - MAHESHTALA

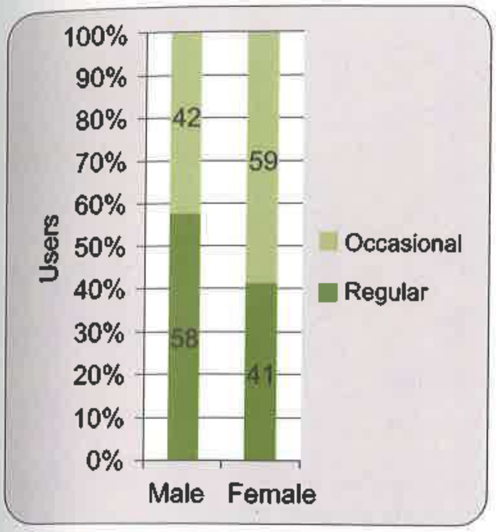
MUNICIPAL CORPORATIONS

1 - CHANDANNAGAR
2 - KMC (KOLKATA MUNICIPAL CORPORATION)

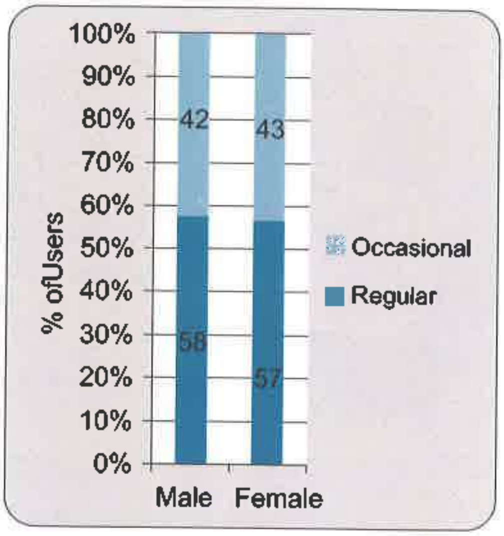
B. Types of User on the Basis of Frequency of Use

On the basis of frequency of use the respondents are classified into regular and occasional. In the parks the male users are more regular while more females visit the parks only occasionally. But it is found that almost similar proportions of regular and occasional users visit the water areas. It is observed that women have a variety of household functions to perform in the waterbodies.

PARKS



WATERBODIES



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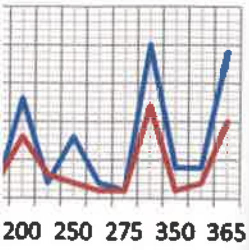
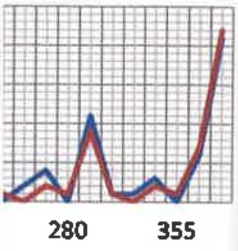
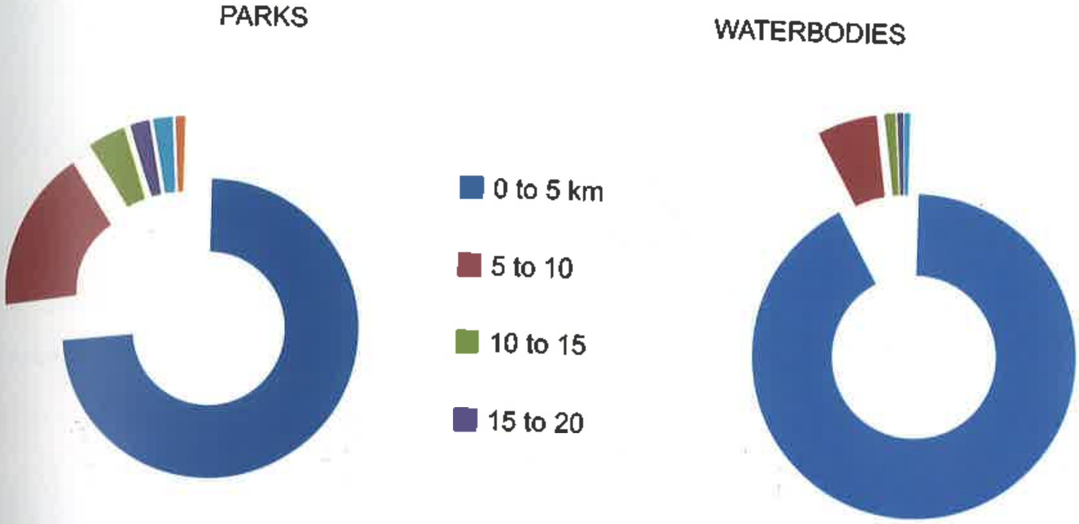




D. Percentage of users and Distance Commuted

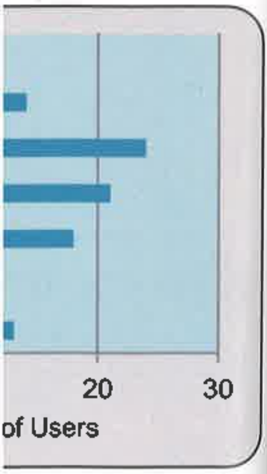
The diagrams below show that both for parks and waterbodies the users come from the immediate neighborhood. The number dwindles with the increasing distance.



E. Number of Users and Types of Use in the Parks and Waterbodies

A variety of uses are found in both the parks and waterbody areas by the regular and occasional visitors. In the parks, passive recreation is a common activity followed by walking. In the waterbody areas, swimming, washing, bathing and fishing are important activities.

n the Waterbody within th



ıg 4. Washing 5. Swimmi

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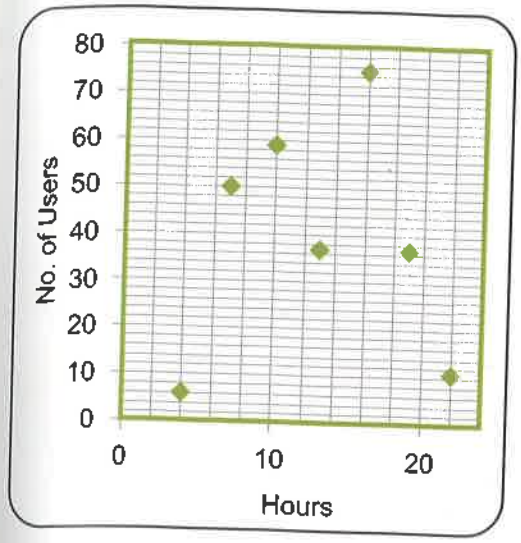

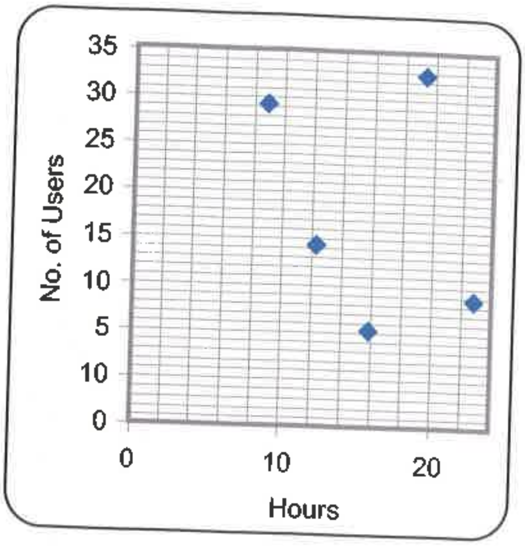

6. Reported Barriers

Both the regular and occasional users face some problems in using the public open spaces. The respondents have identified these problems as follows:

PARKS

1. Parks are water-logged during the rainy season
2. Visitors sometimes litter the place with garbage
3. No electricity in some parks

blic open spaces :

to health, social interactio
ie functions. These activitie
gically friendly environme

within an urban area. As the cities and towns are expanding the value of green spaces are also becoming vital. However, our urban areas not designed for mandatory inclusion of open spaces and many of the existing spaces are not maintained properly. It is found that the users often have a comprehensive knowledge about the open space in their neighbourhood. Their participation in maintaining a park and a waterbody can enhance the multiple benefits of these spaces. Although many NGOs actively participate in conservation of open spaces there is a lack of participation of the civil society in these activities. It is therefore necessary for the local authorities to encourage public participation by promoting users' right to participate in such decision making. It is also important for the users to collaborate purposefully and voluntarily for well being of these urban green spaces.

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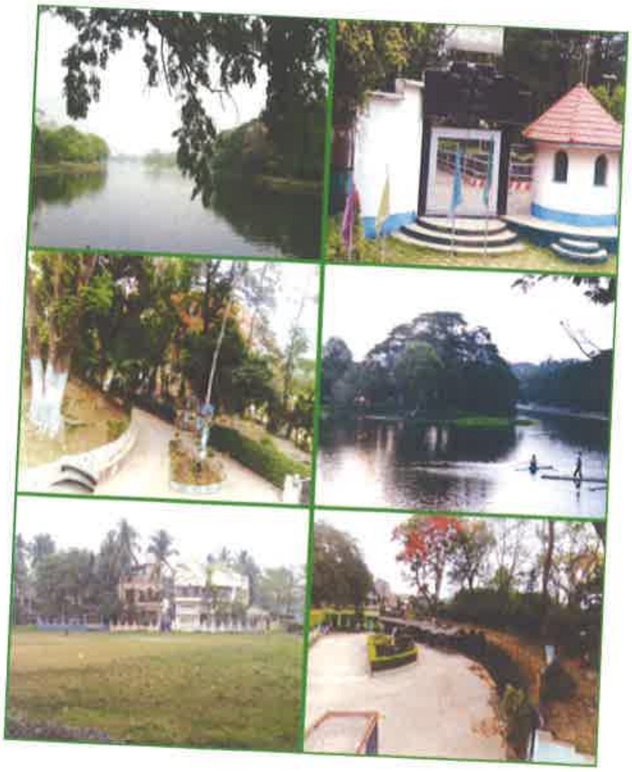


By Bolzano theorem, since g(0) and g(1) have opposite signs, thus there exists $c \varepsilon (0,1)$ such that $g(c)=0$; implying $c=f(c)$ [from (1)].

Therefore, c is a fixed point.

If S is the collection of all fixed points, then s is non-empty {since, $c \varepsilon S$}. Now, we prove that S is a closed set.

Let $a \varepsilon S \cap [0,1]$.

Therefore, either $a>f(a)$ or $a<f(a)$........{since, a is not equal to f(a) }.

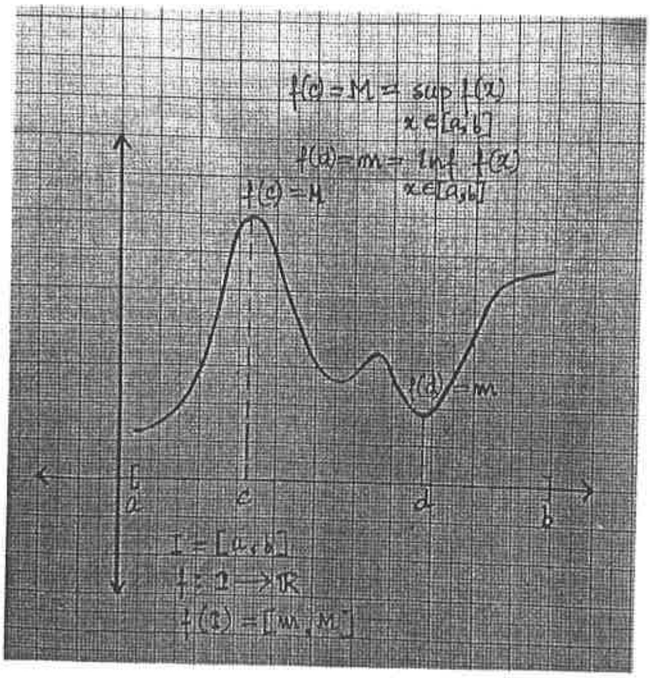
So, $g(a)>0$ or $g(a)<0$, then by neighbourhood property, there exists N(a) such that for all $x \varepsilon N(a)$, g(x) keeps the same sign as g(a).

Thus, a is an interior point of $S^c \cap [0,1]$.

Since, a is arbitrary, thus, each point of $S^c \cap [0,1]$ is an interior point of $S^c)"[0,1]$, implying that S^c is an open set. Therefore, S is a closed set. Hence, the result is proved.

- **Disconnected Set:** V is said to be disconnected set if V=AUY, A and Y are either open or closed sets and $\bar{A} \cap \bar{Y} = \Phi$.

- **Illustration:** Let I be an interval and f:I→IR be a continuous mapping. Then, f(I) is an interval. If I is a closed and bounded interval, then f(I) is also closed and bounded.



THE CONCEPT OF SELF AND LIBERATION IN INDIAN THOUGHT

By Aishwarya Sakshi, B.A. 3rd Year, Philosophy Honours

Introduction

There has been an undeniable truth in life. There has always been an inequality in the share of sufferings and enjoyment in our life. All the Indian Philosophical systems, other than the Cārvāka, agree that the root cause of this inequality lies in the chain of Karma. According to the law of Karma, the action of an individual leaves some power or potency; and this power enables one to suffer or enjoy the fruits of his actions. If the fruits of actions are not realized in the present life, he has to take another birth in order to realize it. This is how a cycle of birth and rebirth keeps going. However, most Indian systems also believe that this cycle has an end. This process of birth and rebirth is called bondage; and the cessation of this process is called liberation. Thus the urge for attaining liberation has remained the driving force for most of the Indian philosophical enterprise.

It is further interesting to note that this liberation could be achieved not by going somewhere or acquiring anything from outside; the jewel is lying within us. Thus, to attain liberation we must realize our self in its true nature. We must discover our true self that is untouched by the impurities of our day to day life.

Objectives

The different schools in Indian Philosophy were not merely a result of the love for abstract thinking. There has been an intense need for realizing the purpose of life. As a result, despite the fact that these schools have differences of opinions in many issues, as far as their general views regarding the realization of the highest goal, the *summum bonum* of life is concerned most of the schools are in agreement.

The objective of this project is to develop an understanding of the exact nature of state of liberation upheld by the different systems of Indian Philosophy. As liberation means the liberation of the self, the soul, it is not possible to develop a proper understanding of liberation without revisiting the concept of self discussed in different systems. By analyzing these concepts this project finally aims at developing an insight into this trnanscendent state, the final achievement of human life.

Methodology

In order to meet the objective, a thorough literature survey method has been observed. The discussion centers round the views held by six orthodox schools, known as saḍadarśana, and two heterodox schools prevalent in Indian thought. As a discussion on the concept of self is necessary

due to the matter-particles. A particular arrangement of matter-particles gives rise to a particular kind of body. The past deed of a soul generates a desire. This desire attracts a particular type of matter-particles towards the soul; and organizes them into a particular type of body. Jaina therefore considers the soul and its karma-force to be the organizer of the body. As the matter-particles are attracted by the soul because of its karma, these are called karma-matter (karma-pudgala). The flow of such karma-matter into the soul is called āsrava or influx of karma. Bondage, then, refers to the fact that jīva, infected with passions, takes up matter in accordance with its karma.

Jaina has talked about the four types of passions: anger, pride, infatuation and greed. These are also called kasaya, since the presence of these in the soul makes matter-particles stick to it. It is evident that passion of the soul (bhava) is the primary cause of bondage; and influx of matter into the soul(āsrava) is only a consequence of it. This is the reason why Jaina occasionally speaks of two types of bondage:

1) Bhava-Bandha- It is the internal or ideal bondage. It is the soul's bondage to bad disposition.

2) Dravya-Bandha- It is the effect of bhava-bandha. It is the soul's actual association with matter.

Association of the soul with matter is bondage. Hence, dissociation of the soul from matter is liberation. This can be attained by the following two processes:

i) Samvara or the stoppage of influx of new matter into the soul

ii) Nirjara or exhaustion or wearing out of karma-matter in the soul

It has been seen that passion attracts the karma-matter into the soul. Passion arises out of ignorance. Ignorance is the real cause of bondage. Ignorance regarding the real nature of our souls and other things leads to anger, pride, infatuation and greed. Knowledge alone can remove ignorance. Thus right knowledge leads to liberation. Right knowledge is obtained only when one has faith in the teachings of the omniscient Tirthāṇkaras. But, mere knowledge is of no use if it is not practiced. Hence, in order to obtain liberation, right conduct is indispensable. In observing right conduct one has to control his passions, his senses, his thought, speech and action. This is how the influx of new karma-matter is stopped and the old karma-matter is exhausted. Therefore, right faith, right knowledge and right conduct together lead to liberation and they are called the three Jewels (tri-ratna) of Jainism.

Self, Bondage and Liberation in Buddhism

Buddhists hold that there is no permanent enduring self in the individual. Individual is a saṁghāta or an aggregate of different skandhas. These skandhas are five in number; viz., rūpa or the physical body, vedanā or feeling, sañjñā or perception, saṁskāra or mental disposition, and vijñāna or consciousness or intellect. Here, the first denotes the physical body and rest are psychical in nature. An individual is, therefore, an aggregate of mind and body. What appears to be the self is only a bundle of ideas, emotions and active tendencies. These elements have no substratum to uphold

unaffected by all objects. All change and activity, all pleasures and pains belong to matter and its products, like the body, mind and intellect. Sāṅkhya believes in the plularity of Puruṣa. There are innumerable Puruṣa. However, all of them are essentially alike. Their essence is consciousness.

Liberation, for Sāṅkhya, is freedom from pain. According to Sāṅkhya life is full of pain. There can be three kinds of pain:

Ādhyātmika: All mental and bodily sufferings belong to this kind of pain. It is caused by intra-organic psychophysical factors.

Ādhibhautika: All pains caused by extra-organic natural factors like beasts, men, birds, etc. belong to this type of pain.

Ādhidaivika: This kind of pain is caused by supernatural factors like planets, ghosts, demons, etc.

The end of life is to get rid of these three kinds of pains. Liberation thus consists in complete annihilation of all sufferings and pains. Pains are caused by gunas. So, if one has to achieve liberation, one has to be free from gunas. Guṇas are always present in Prakṛti and its evolutes. This means, for achieving liberation, Puruṣa has to be free from any association with Prakṛti and its evolutes.

As Puruṣa is free from all kinds of action, he is beyond merit and demerit; and consequently, from bondage and liberation. Puruṣa is always free. However, he is reflected in buddhi (one of the evolutes of Prakṛti), and wrongly identifies himself with this reflection. As a result he seems to be bound. Once he realizes his true nature he becomes liberated. Bondage is thus the result of non-discrimination between self and non-self. In other words, bondage is caused by the ignorance regarding the real nature of self and non-self. Now, this ignorance can be removed only by knowledge. Hence liberation can be achieved through knowledge. Puruṣa has to realize that he is different from Prakṛti and its products. Constant meditation upon the knowledge like 'I am not the non-self' or 'nothing is mine' leads to liberation.

Sāṅkhya accepts jivanmukti and videhamukti. Although right knowledge leads to liberation immediately, the individual may have to remain embodied due to prarabdha karma. Just as the wheel goes on revolving even after the withdrawal of the potter's hands from it due to the previous momentum, similarly, on account of the momentum of past deeds, the body continues to survive. This stage is called jivanmukti. However, at this stage no new karma is initiated, and thus all karma loses its potency. The final emancipation is achieved only after death. This stage is called videhamukti.

According to Sāṅkhya liberation is complete annihilation of pain. It is also freedom from all positive feelings like pleasure, happiness, or bliss. Sāṅkhya explains that the liberation means the freedom from all guṇas; and pleasure is caused by sattva guna. Therefore liberation cannot be a happy or blissful state.

Self, Bondage and Liberation in Mīmāṁsā

Mīmāṁsā view of self and liberation is very similar to that of Nyāya-Vaiśeṣika, both being the realist and pluralist. According to the Mīmāṁsaka, self is eternal, omnipresent, all-pervading, infinite substance. It is the substratum of consciousness; and the real knower, enjoyer and agent. Souls are many in number. The self is not the body, nor the senses, not even the mind or the understanding. Consciousness is not the essence of self. At this point the views given by Prabhakara and Kumarila differ. Prabhakara holds that consciousness is only an accidental property of soul. Self is essentially unconscious. So, his view is very similar to that of the Nyāya-Vāiśeṣika. Kumarila, on the other hand, says that consciousness is neither an essence nor an accidental property of the self. He holds that consciousness is a modal change in the self. The objects are cognized by the self through consciousness. Like the Jaina, Kumarila holds that self is changeless as well as changing. As a substance it is free from change, as a mode it is changing. The self is not wholly unconscious; but conscious-unconscious. It is unconscious as a substance, and conscious as a mode. The self has the potency to know. So, the self has potential consciousness.

According to some scholar, earlier Mīmāṁsaka used to hold that the highest goal of human life is to be in heaven. One can attain this blissful state by performing Vedic rites. However, the later Mīmāṁsaka holds that liberation is the termination of the bondage of the soul with the body. At this point their view is similar to that of Nyāya-Vaiśeṣika.

Mīmāṁsaka believes that in liberation the self becomes devoid of all qualities. It remains as a pure substance. Kumarila, however, points out that even at the state of liberation the self is characterized by potential consciousness.

It is, however, noteworthy that regarding the nature of liberation two different views can be found. According to some Mīmāṁsaka liberation is not a blissful state. At this state the soul remains in its own intrinsic nature as a substance with the potentiality of consciousness. It is, then, a state in which there is neither pain nor pleasure, nor any specific quality in the soul. There are some other Mīmāṁsaka who believes that liberation means not only the cessation of all pain but also a manifestation of eternal bliss. So, liberation is a state of eternal bliss.

Self, Bondage and Liberation in Śankara-Vedānta

According to Sankara Pure consciousness is the essence of self. Consciousness being self-luminous, the self is essentially self-luminous. Pure consciousness is identical with existence and bliss. Further, the conception of existence involves the ideas of truth, eternity, immutability and completeness. Thus the self is unconditionally true, eternal, unchangeable and self-complete. The self is one. It is due to ignorance that the self is regarded to be many. The self is free from all qualities and actions.

Once the self is conditioned by avidyā it is revealed as jīva or empirical self. It is this empirical

holding that self is not identical with Pure Consciousness. Ramanuja does not accept anything called Pure Consciousness. He points out that consciousness is always qualified and possesses specific attributes. It is always present in a subject. No one says, 'I am consciousness'; everyone says, 'I am Conscious'. Consciousness belongs to self which is self-luminous. As such, the self is all-pervasive; yet the function of the self is obstructed by karma. Even in deep sleep the self remains self-conscious, together with knowledge. Here, the knowledge remains unmanifested since it has no object to reveal.

According to Ramanuja the chit or individual soul is an attribute or mode of God; and constitutes part of his body. Nevertheless, it is spiritual in nature and is absolutely real. Although it is beyond creation and destruction, it becomes embodied to reap the fruits of its karma. The relation between the soul and karma is regarded to be beginningless. The soul is changeless and perfect in essence. However, the soul becomes victim of various imperfections, and miseries as it is subjected to earthly existence. But, these do not affect the true nature of the soul. The soul maintains its essential nature through different births and deaths.

Although the soul is different from the body, mind, vital breaths, or cognition, but it wrongly identifies itself with these due to ignorance and karma. There are innumerable souls. Nevertheless, they are essentially alike. The soul is regarded to be the real knower, the real agent and the real enjoyer.

Ramanuja talks of the following three classes of souls:

i) Nitya-mukta: Souls that are ever free and never bound are called nitya-mukta.

ii) Mukta: Souls that were once bound but obtained liberation through action, knowledge and devotion are called mukta.

iii) Baddha: Souls that are wandering in samsara due to ignorance and bad karma are called baddha.

It has already been mentioned that the souls are bound due to their ignorance and karma. So, in order to get rid of this bondage, the soul has to remove its karmic obstacles. For this, a harmonious combination of action and knowledge has to be initiated. Ramanuja also insists that liberation is impossible without God's grace.

For Ramanuja, liberation is not the merging of the atman into Brahman. When the individual soul directly and intuitively realizes that he is essentially a mode of God, liberation is achieved. In order to achieve liberation, two conditions are required to be fulfilled: a) There must be an utter destruction of the karmas. This will help the soul to acquire its innate purity. b) There must be a transformation of the constant meditation into immediate intuition of the God. This is possible only at the dawn of the Divine Grace. Hence there is no jivanmukti in this system. As long as the soul remains associated with the body, karma prevails; and, therefore, the soul cannot obtain its innate purity. The removal of all karmas, and the dawning of the immediate knowledge of God lead to liberation. However, the

AVIFAUNAL DIVERSITY IN TWO DIFFERENT LOCALITIES OF KOLKATA

By : Tuba Naaz, Sneha Shaw, Nisha Sharma, Zoology (G) Third year (2016-17)

Introduction:

Kolkata, the capital city of West Bengal, is located on the east bank of the Hooghly River. It is the principal commercial, cultural and educational centre of Eastern India. Much of the city was originally a wetland [1] that was reclaimed over the decades to accommodate a burgeoning population and this process is continuously going on as the city is now becoming a megacity. With the advancement of development, megacity has now been expanding up to different sub urban areas and consequently it is facing serious anthropogenic problems related to its rapidly changing urbanization pattern like- reduction of its greenery and overloaded with pollution etc. So the study of biodiversity in a city like Kolkata is now becoming interesting.

Materials and Methods:

Study areas :

The study was conducted from September, 2016 to January, 2017 at two sites of Kolkata viz. Cossipore -at the north sub-urban region and, Chowringee at southern region. The avifauna and their abundance were studied in both study sites and compared.

Kolkata city ($22^{\circ}34'$ N and $88^{\circ}24'$ E)[2] is located in eastern part of India and spread linearly along the banks of Hooghly River. The city is near sea level with an average elevation being 17 feet. The climate here is tropical wet and dry with summer monsoon, high humidity and well distributed rainfall. Annual mean temperature was recorded as $28.4^{\circ}C$ while monthly mean temperatures range from $19^{\circ}C$-30° C. The maximum rainfall is more than 300 mm occurs during the month of August and the average annual rainfall is about 1500 mm, along with relative humidity varies between 47% and 83%.

Study area-1 Cossipore is situated near east bank of Hooghly River. It is an age old sub-urban residential/industrial area and now facing serious threats due to expansion of urbanization. Vegetation is classified here into natural and planted trees as well as shrubs. Considerable number of green spaces and water bodies are present. Besides, a number of small scale industries are also marking their presence by promoting pollution in this area.

Study area-2 Chowringhee is a totally urbanized area and it was initially developed for supporting the growing population of city Kolkata. Residential houses and public places are scattered here along with several natural and planted greeneries.

Method:

The present study is a list of bird species that are usually found in those areas and it was carried out during September,2016 to January,2017, twice in each month from 10 am-12 Noon and 3pm-

Conclusion

Our study sites are exclusively residential areas and are still urbanizing. A lot of human interferences are there, besides constructional activities, noise, pollution due to vehicles etc. are always making threat to the species of avifauna of this region. It could be the reason why species diversity is variable. Still these sites have supported significant number of avifauna particularly at the southern part of Kolkata (Chowringhee) showing the area may provide some potential habitats to the birds. Present observation provides a preliminary report and further survey with aim to study the landscape pattern in and around these areas with respect to bird fauna is required for better understanding of biodiversity resources here. Therefore, it is the need to monitor these areas systematically with a focused study on status, distribution and conservation of birds.

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Objectives

Every survey has an aim and our team's motto was to observe the disturbances faced by nature that has taken place in recent years. Our first survey was at **Chintamani Kar Bird Sanctuary (CKBS), Narendrapur, Kolkata, West Bengal, India, October 13th 2016.** The team as a part of the Citizen Science Collaborative Project was able to spot and photograph 22 species of birds in a 6 Hours Survey that was conducted. Learning the basics of photography, recording of data constituted the main chunk of the programme. With hands on opportunities of using Canon cameras and lenses, almost all of us were handling DSLRs for the first time. We were also introduced to the use of ICT - Information & Communication Technology during the programme, we used mobile applications and e-field guides for the identification of the various species found at CKBS. We have cited a lot of species.

Some of them are : Shikra, Spotted Dove, Spotted Dove, Asian Koel, Chestnutheaded Beeeater, Chestnutheaded Beeeater, Alexandrine Parakeet, Common Iora.

Red vented Bulbul

Barbet Psilopogon lineate

Black-rumped Flameback

Greater Flameback

Red-whiskered Bulbul

Jungle Babbler

Along with the birds, we had also spotted a few mushroom species growing there.

Lingzhi Mushroom

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The team at Santragachi Lake on 29th January'17

Map of Satragachhi avian survey.

Indian golden oriole

Purple Sunbird

Purple heron

White breasted kingfisher

Eurasian collared dove

This is a special tree blooming with pink flowers where we spotted the 'Purple Sunbird' →

This was the rare species that we have found. According to latest reports rapid urbanization, increase in settlement around the huge water body which is normally visited by many migratory bird species, has given rise to much lesser number of migrants this year, even the presence of Santragachi Railway Station beside the lake is also a cause of noise pollution. However, the **lesser whistling duck** is the dominant species visible here.

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