



प्रथम | FIRST

वार्षिक प्रतिवेदन
२०१२-१३

Annual Report
2012-13



जैव प्रसंस्करण इकाई
BIO PROCESSING UNIT

प्रकाश
मुख्य कार्यकारी अधिकारी
जैव प्रसंस्करण इकाई
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वैज्ञानिक एवं प्रशासकिय कर्मचारीगण, सूचना-प्रदान एवं सुझावों के लिए

Published by
Chief Executive Officer
Bio Processing Unit
C-127, Second Floor, Phase VIII, Industrial Area, S.A.S. Nagar
Mohali, Punjab, INDIA - 160002

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Acknowledgements

Scientists & Administrative staff for suggestions and for providing information



मुख्य पृष्ठ पर चित्र: चयनित जैव संसाधनों की एक झलक

Figure on Cover: A glimpse of selected bioresources.

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सर्वाधिकार सुरक्षित। सामग्री का अप्रधिकृत पुनर्प्रकाशन अथवा उपयोग निषेध है इस रिपोर्ट को कोई भी अंश मुख्य कार्यकारी अधिकारी
की पूर्वानुमति के बिना इलेक्ट्रॉनिक अथवा मकैनिकल, फोटोकॉपी, रिकार्डिंग आदि किसी भी माध्यम से प्रयोग में नहीं लाया जा सकता।

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जैव प्रसंस्करण इकाई BIO PROCESSING UNIT

(An Autonomous Institute under Department of Biotechnology, Government of India)
(जैव प्राद्योगिकी विभाग, भारत सरकार के अधीन एक स्वयत्त संस्थान)

वार्षिक प्रतिवेदन | 2012-13
Annual Report



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मुख्य कार्यकारी अधिकारी
From the CEO's Desk

जी व विज्ञान के माध्यम से देश के आर्थिक विकास की गति को तीव्र करने की सरकार की योजना के इस समय में जैवप्रसंस्करण अनुसंधान के लिए एक संस्थान की स्थापना करना यद्यपि एक कठिन कार्य है परन्तु यह एक असाधारण अवसर भी है। जैवप्रसंस्करण में अवसरों के अनेक क्षेत्र शामिल हैं। जैव प्रसंस्करण इकाई (बी.पी.यू.) के संस्थापक मुख्य कार्यपालक अधिकारी (सी.ई.ओ.) के मेरे कार्यभार ग्रहण ने संस्थान की बृहत विकास योजना बनाने के कार्य ने मुझे संस्थान के प्रथम वर्ष—भर इसके दृग्विषय एवं लक्ष्य निर्धारण विषय के चिंतन को सशक्त एवं प्रोत्साहित रखा। जैव—आधारित प्रक्रियाओं के क्षेत्र में ट्रांस्लेशनल अनुसंधान करने के लिए स्वायत्तशासी संस्थान के रूप में मोहाली में बीपीयू की स्थापना की योजना भारत सरकार का एक महत्वपूर्ण निर्णय है। पंजाब राज्य में अन्य अनेक उभरते हुए संस्थानों के बीच इसकी स्थापना का उद्देश्य मोहाली में जैवक्लस्टर के विकास की महत्वाकांक्षी योजना का द्योतक है, जो कृषि क्षेत्र के आसपास विकास यंत्र के रूप में कार्य करेगा। जैव—प्रौद्योगिकी विभाग ने पंजाब राज्य विज्ञान और प्रौद्योगिकी परिषद् के साथ मिलकर विचार सृजन से लेकर कृषि—खाद्य क्षेत्र में निवेश के लिए नवाचार एवं प्रौद्योगिकी अनुप्रयोग की श्रृंखला को उत्प्रेरित करने हेतु बहुत सूझबूझ से जैव—प्रौद्योगिकी पार्क के आसपास बीपीयू और राष्ट्रीय कृषि जैवप्रौद्योगिकी संस्थान (नाबी) की स्थापना की। बृहत परिप्रेक्ष्य एवं एक ही स्थान पर समाधान को सुनिश्चित करने के लिए मोहाली में एक ही परिसर, जिसे 'ज्ञानशहर' का नाम दिया गया, में अन्य संस्थानों, विशेषकर आईआईएसईआर, आईएनएसटी एवं आईएसबी की पृष्ठभूमि में जैवक्लस्टर विकसित किया जा रहा है। ट्राई—सीटी चण्डीगढ़, मोहाली एवं पंचकूला क्षेत्र में स्थित पंजाब विश्वविद्यालय व सूक्ष्मजीव प्रौद्योगिकी संस्थान (इम्पैक) इत्यादि के अलावा इसके सनिकट ही मोहाली में नाइपर संस्थान है। कौशल और उद्यमिता विकास के प्रमुख क्षेत्रों में अन्तर—विषयी शिक्षा एवं अनुसंधान से विभिन्न स्तरों पर कार्यकारी अभिमुखीकरण लाने के लिए इसकी स्थैतिक निकटता एक उत्कृष्ट योजना है। मैं इसे महान दूरदृष्टि का स्वर्णिम प्रारंभ मानता हूँ, जो कृषि अर्थव्यवस्था के ज्ञान—चालित विकास में निवेश के लिए इस क्षेत्र व देश को उत्प्रेरित करेगा। बीपीयू भाग्यशाली है कि वह इस महान दूरदृष्टि का एक हिस्सा है। मुझे बीपीयू के माध्यम से इस दूरदृष्टि को प्राप्त करने के लिए डीबीटी के साथ कार्य करने की पहल करने का सम्मान प्राप्त हुआ है। पंजाब सरकार ने बीपीयू परिसर के विकास के लिए खुले दिल से इस पहल हेतु भूमि तथा अन्य आनुशांगिक सहायताएं उपलब्ध करवाईं। बीपीयू का लक्ष्य न केवल ज्ञान आधारित नवाचार जैव प्रसंस्करण

8



“जिज्ञासा ज्ञान - उत्पन्ता की वाहक
ज्ञान मूल्य - अनुवृद्धि की क्षमता प्र
करता है, ज्ञान को उपयोगिता से ज
की धुन नवोन्मेषिता की ओर अग्रसि
करती है, नवोन्मेषिता से मानवता व
सतत सेवा होती है”



डॉ. राजेन्द्र सिंह सांगवान

मुख्य कार्यकारी अधिकारी

अनुसंधान के केन्द्र के रूप में उभरना है, अपितु जैविक एवं रासायनिक पद्धतियों पर मुख्य ध्यान केंद्रित करते हुए नए उत्पाद के विकास, समस्या समाधान, उपलब्ध समाधानों में सुधार, वैकल्पिक समाधान इत्यादि के लिए विज्ञान-आधारित अनुसंधान को संभाव्य अनुप्रयोगों से जोड़ने का साधन भी बनना है। बीपीयू में जैव प्रसंस्करण के अनुसंधान एवं विकास प्रयास खाद्य एवं अखाद्य जैव-उत्पादों से संबंधित समाज की उभरती हुई आवश्यकताओं के अनुरूप होंगे।

वैज्ञानिक विषय के रूप में 'जैव-प्रसंस्करण' का बहुत व्यापक क्षेत्र है, यह स्व-स्थाने अथवा खेत की जैव-उपज से रासायन प्राप्त, सैल्युलर एवं एंजाइम जैवरूपांतरण, जैव/रासायनिक आशोधन, जैवअणुओं का जेनोजेनिक उत्पादन इत्यादि जैसे अनेक विविध अनुसंधान एवं विकास क्रियाकलापों का संरक्षक है। तथापि, कुछ मामलों में वे प्रारंभिक मूल्यांकन से लेकर संभाव्य लाभार्जन तक के विभिन्न स्तरों पर अनुसंधान संपर्क स्थापित कर अत्यंत उच्च मात्रा (मात्रा अथवा मूल्य) में उपज को संभालने तथा शोध निष्कर्षों एवं परियोजनाओं में वास्तविक जीवन की व्यवहार्यताओं जैसी समानता को सांझा भी करते हैं। इनमें से अनेक शोध क्षेत्र एवं विषय बीपीयू के भावी संकाय सदस्यों को आकर्षित करेंगे और वे उनके वास्तविक परिणाम प्राप्त करने के लिए कार्य करेंगे।

संस्थान अपने रचनात्मक स्तर पर उप-उत्पादों और सह-उत्पादों के विकास के लिए कृषि-अवशेषकों के मूल्यावर्धन एवं जैवमात्रा के प्रसंस्करण से संबंधित प्रक्रियाओं और उत्पादों पर अपने प्रयास संसृतित करेगा। इस योजना में फीड-स्टाक जिन्हें अनुसंधान कार्य के लिए समायोजित किया जा रहा है उनमें उच्च मात्रा में उपलब्ध जैवसंसाधनों और जैवउपज को प्राथमिकता जाती है, जिनका अभी तक इनके उपयोग के बेहतर विकल्पों के संभव होने के बावजूद बहुत कम उपयोग किया जा सका है। इस संदर्भ में बीपीयू में अनुसंधान एवं नवाचार कार्यक्रमों की योजना कृषि के गौण उत्पादों के लिए राष्ट्रीय बल के विकास की गति को बढ़ाने के लक्ष्य को ध्यान में रखकर तैयार की जा रही है। इससे होलिस्टिक (समग्र) अथवा बहु-उत्पाद विकास के लक्ष्य को लेकर अनुसंधान एवं विकास क्रियाकलाप किए जाना अपेक्षित है।

मूल्य श्रृंखला को पूरा करने के लिए बीपीयू अपने नवाचारों, वैद्यताओं और संवर्धित प्रक्रियाओं तथा/अथवा उत्पादों को उद्यमिता विकास के साथ भी जोड़ेगा। बीपीयू व्यापारिक तौर पर अनुप्रयोग हेतु कौशल में सुधार तथा अत्याधुनिक प्रौद्योगिकियों को समावेशित करने के लिए प्रदर्शनों व प्रशिक्षण के माध्यम से नई कम्पनियों के

लिए उत्प्रेरक के रूप में कार्य करेगा। बीपीयू का इन्क्यूबेटर अंग प्रारंभिक उत्पाद विकास तथा कृषि-खाद्य क्षेत्र में उद्यमिता के विस्तार में सुगमता-सहायता प्रदान करेगा। रूपांतरण अनुसंधान और प्रौद्योगिकी प्रसार की इस कार्य योजना से कृषि-अवशेष/कृषि-अधिशेष के सृजन/उसमें वृद्धि होना अपेक्षित है तथा इससे कृषि आय में बढ़ोतरी होगी।

भारत प्रतिवर्ष में लगभग २५० मिलियन टन खाद्यान्न उत्पादित करता है। इस अन्न के साथ ३०० मिलियन टन से अधिक की गैर-अन्न जैवउपज का सह-उत्पादन होता है। साथ ही, सब्जियों, बागवानी, गन्ने तथा कृषिवानिकी सहित अन्य वनस्पतियों से बड़ी मात्रा में अवशेष जैवउपज सृजित होती है। एक अनुमान के अनुसार, इस प्रकार प्रतिवर्ष यह जैवअवशेष लगभग ५०० मिलियन टन हो जाता है। यद्यपि इसके एक हिस्से का उपयोग चारे के रूप में हो जाता है, किंतु एक बड़ा हिस्सा अप्रयुक्त अथवा कम प्रयुक्त ही रहता है। इस प्रकार की जैवउपज प्रथम भंडार (प्राथमिक अवशेष) बनता है, जिसे मूल्य आवर्धित उत्पादों के रूप में रूपांतरण के लिए जैवप्रसंस्करण शोध तथा नवाचार की आवश्यकता होती है। साथ ही द्वितीय अवशेष अन्न, फलियों इत्यादि के प्राथमिक प्रसंस्करण के सह-उत्पादों के रूप में सृजित होते हैं, जिसमें भूसी, छिलके, खोल आदि भी शामिल होते हैं। इस प्रकार की जैवउपज को स्वास्थ्य एवं पौषक उत्पादों के तथा बहुमूल्य जैवरासायनों व औद्योगिक रासायनों के स्रोत के रूप में प्रसंस्करित किया जा सकता है। तीसरे प्रकार के अवशेषों में फलमेष, बीज मूल, भूसी, औषधीय व सगंधीय जड़ी-बूटी अवशेष इत्यादि जैसे निष्कर्षण एवं दलन के उप-उत्पाद शामिल होते हैं। इस प्रकार की जैवउपज न केवल न्यून व उच्च आण्विक भार के पौषक एवं गैर-पौषक फीटोरासायनों से भरपूर होती है, अपितु इनके आगे के अन्वेषण से अन्य एवं नए घटकों के प्राप्त होने की भी संभावना होती है। भारत में इन जैवसंसाधनों के मूल्य आवर्धित प्रसंस्करण की, लाभ की दृष्टि से, वर्तमान में संभावना प्रौद्योगिकीय, रूपांतरण संबंधी एवं आपूर्ति श्रृंखला मुद्दों जैसी कई कठिनाइयों के कारण अत्यंत अल्प है। इस श्रृंखला में वृद्धि के लिए किसानों सहित हितधारकों की सक्रिय एवं सहयोगात्मक भागीदारी की आवश्यकता है, जिससे कि प्रौद्योगिकीय उत्पादों से विवेकपूर्ण आर्थिक लाभ प्राप्त किए जा सकें। इस क्षेत्र में त्वरित तकनीकी-हितग्राह विकास के लिए खेत में प्रसंस्करण श्रृंखला (फार्म गेट प्रोसेसिंग) प्रारंभ करके प्राथमिक उत्पादकों के लिए उपजभंडार के प्रसंस्करण की प्रौद्योगिकी-बेनिफैक्शन एक अन्य वर्तिकल

(स्तम्ब) है, जिसमें संवर्धन किया जाना है। अतः, कृषक/ग्रामीण समुदायों के बीच उद्यमिता प्रारंभ करने के इस मूल तात्विक संगत स्तर पर सहायता के लिए सरल प्रक्रिया चालित नवाचार समाधान खोजने आवश्यक हैं। विचार सृजन और नवाचार स्थान में विस्तार के लिए प्रक्रियाओं के इस प्रकार के वितरित अनुप्रयोग नवमत जनन में प्रेरणादायक एवं लाभकारी भी हैं। इस स्तर से प्रसंस्करण एवं उत्पादों के उच्च सामर्थ्यशाली हितधारकों के लिए हाई-एंड स्तरों के साथ श्रृंखलाबद्ध सहयोजन विविध कृषि-अवशेषों को उनकी अपेक्षित उपयोगिता श्रृंखला में लाने के लिए मात्रात्मक एवं गुणात्मक मूल्यआवर्धन में लाभकारी होगा। बी.पी.यू. (१) उत्पादों एवं प्रक्रिया के बहुगुण अनुसंधान पर अनवरत तथा समेकित अनुसंधान, (२) ज्ञान और अनुप्रयोग की नवीन पहल एवं सीमा वर्धन के लिए नियमित वैज्ञानिक विचार-विमर्श हेतु सामान्य विषयी वातावरण (३) आर्थिकीय अच्छे उत्पादों की आपूर्ति के लिए बीपीयू और अन्य स्थानों से वैयक्तिक शोधकर्ताओं को उत्प्रेरित करना। अंतर-संस्थान स्तर पर, बीपीयू उत्पादन वरीयता मानदंडों के माध्यम से प्रयोगशाला बैंच निष्कर्षों का परीक्षण करने के लिए मार्गदर्शी सिद्धांत तैयार करने हेतु प्रसंस्करण ईष्टतमीकरण/विकास के साथ अनुसंधान एवं नवाचार प्रयोगशाला क्रियाकलापों को सम्मिश्रित करेगा। इस प्रकार, बीपीयू देश या विदेश में विकसित अत्यधुनिक प्रौद्योगिकियों का प्रयोग करते हुए घरेलू आदिप्ररूप फ्लेटफॉर्म सृजित करेगा तथा उद्यम स्थापित करने में उनका ईष्टतमीकरण करेगा। संस्थान की इस कार्य-व्याख्या से स्पष्टतः बीपीयू मापक्रमणीयता और पोषणक्षमता के वास्तविक परीक्षणों के माध्यम से 'जैवसंसाधन ज्ञान को अनुप्रयोग के साथ सहयोजित' करने वाला संभवतः अपने देश का इस प्रकार का प्रथम संस्थान बनता है।

चूंकि प्रत्येक कृषि-अवशेष की रासायनिक संरचना भिन्न होती है, अतः न तो किसी एक प्रक्रिया और न ही एकल उत्पाद पद्धति से आर्थिकीय अच्छा पदार्थ प्राप्त किया जा सकता है। अतः, विविध उपयोगिता वाले उत्पादों (खाद्य, फीटोकैमिकल्स, तकनीकी, अभिकर्मक, औद्योगिक, ऊर्जा, पर्यावरणीय इत्यादि) का रेखीय आधार पर सहयोजित मल्टी-मॉड्युलर (बहु-प्रमाणिय) प्रसंस्करण अथवा समेकित प्रसंस्करण पोषणक्षमता के अंतिम लक्ष्य निर्धारित करता है। साथ ही, बीपीयू का लक्ष्य निष्कर्षण के शैक्षिक प्रसंस्करण के विपरीत, लघुतम इकाई प्रचालन, न्यूनतम प्रचालन लागत, गैर-उपजभंडार का पुर्नउपयोग/प्रतिपूर्ति, पर्यावरण सुरक्षित, बड़े हुए आर्गेनिक मान इत्यादि के साथ सस्ती प्रसंस्करण प्रक्रियाओं का

विकास करना है। पोषणक्षमता एवं स्वास्थ्य खतरों से बचाव के लिए हरित प्रसंस्करण भी अपेक्षित है। वैश्विक स्तर के उत्पादों के लिए क्षेत्रीय व राष्ट्रीय आवश्यकताओं के अनुरूप व्यावहारिक समाधान सृजित करने हेतु नवीन, प्रतिकृति एवं गैर-प्रतिकृति प्रकृति की अनुसंधान एवं विकास प्रक्रियाएं और पद्धतियां अपेक्षित हैं। ज्ञान का नवाचारों में रूपांतरण और उत्पादों एवं प्रौद्योगिकी के विकास में उन्हें परिवर्तित करना एक धीमी प्रक्रिया है तथा इस अपेक्षित मानदंडों व स्थितियों के अनुसार अनुसंधान व विकास कार्य करना होता है। अतः, अत्यंत आशाजनक वैज्ञानिक कार्यों भी ज्ञान और नवाचार के क्षेत्रीय अनुप्रयोग में प्रायः वर्षों लग जाते हैं। बीपीयू इस समय-अंतराल को कम करने के लिए उत्प्रेरक व काम करेगा। अधिकांश शैक्षिक संस्थानों में अनुप्रयुक्त अनुसंधान की चौंध और प्रशंसा शुद्ध विज्ञान चालित अनुसंधान जितनी उच्च नहीं होती। बीपीयू को ऐसी प्रणाली विकसित करने की आशा है जो सामाजिक कल्याण के लिए नवाचार एवं अनुप्रयोगों को प्रेरक व उत्साहवर्धक बना सके। कई बार, इस प्रकार के नवाचार स्थानीय जैवसंसाधनों के आपेक्षिक होते हैं तथा इससे क्षेत्रीय लाभ प्राप्त होते हैं, वैश्विक प्रभाव नहीं पड़ता। मुझे विश्वास है कि जैसे-जैसे बीपीयू अपने संकाय सदस्यों, अवसंरचना, विज्ञान और अनुप्रयोग के साथ विकास करेगा, यह देश के लिए महत्वपूर्ण जैवप्रसंस्करण के क्षेत्रों में सफलताओं से सज्जित पथ प्राप्त करेगा और आने वाले वर्षों में जैवविज्ञान के ऐसे क्षेत्रों में विकास व कारुचि को संवर्धित करेगा।

रिपोर्टधीन अवधि में बीपीयू संस्थापना वर्ष अत्यंत महत्वपूर्ण रहा बीपीयू ने पंजाब राज्य के लिए अनुप्रयोज्य रजिस्ट्रेशन ऑफ सोसायटी अधिनियम, १८६० के अंतर्गत स्वयं को सोसायटी के रूप में पंजीकृत करवाकर अपना वैधानिक अस्तित्व प्राप्त किया और जैवप्रौद्योगिकी विभाग, भारत सरकार के अंतर्गत एक स्वायत्तशासी संस्थान के रूप में कार्य करना प्रारंभ किया। इस दौरान, बीपीयू ने अपने लक्ष्य, उद्देश्य, एवं शासन के नियमों को विनियम बनाए। संस्थान ने अनुसंधान कार्यक्रमों के लिए दिशा एवं मार्गदर्शी सिद्धांत स्थापित किए तथा इनके अनुसार अपने विशिष्ट क्रियाकलाप प्रारंभ किए। संकाय सदस्यों, जो आने वाले वर्षों में ज्ञान की नवीन सीमाएं और उत्पादों के नए ब्रांड/माप सृजित करेंगे, को आकर्षित करने के लिए प्रतिभा खोज का कार्य जारी है।

मैं बीपीयू सोसायटी और शासी-निकाय (गवर्निंग बॉडी) के माननीय सदस्यों का अनुसंधान निर्देशन में उनके विज्ञान मार्गदर्श

तथा इस संस्थान को कृषि-खाद्य प्रसंस्करण में भावी उत्कृष्टता के केन्द्र के रूप में विकसित करने हेतु अपार सहयोग के लिए हार्दिक आभार प्रकट करता हूँ। मैं बीपीयू की वैज्ञानिक सलाहकार समिति के सदस्यों का संस्थान की दीर्घावधि एवं लघु-अवधि अनुसंधान, नवाचार एवं रूपांतरण कार्य योजना एवं प्रशिक्षण कार्यक्रम तैयार करने में उनकी विद्वतापूर्ण सलाह के लिए कृतज्ञता ज्ञापित करता हूँ। स्थापना के वर्ष में बीपीयू कई स्थानों से विकसित हुआ और अंततः अंतरिम सुविधा में प्रयोगाला बैंच सुविधा स्थापित हुई। मैं डॉ. एम. के. भान, तत्कालीन सचिव, जैव-प्रौद्योगिकी विभाग, भारत सरकार का इन प्रयासों में उनके बहुमूल्य परामर्श एवं संरक्षण के लिए सहृदय धन्यवाद व्यक्त करता करता हूँ। किसी भी विषय में उनसे साथ किए गए विचार-विमर्श ने न केवल हमें समाधान दिया, अपितु वह समाधानों की प्रणाली के रूप में शिक्षाप्रद भी होता था। मैं डॉ. रेणु स्वरूप का बीपीयू की स्थापना के प्रारंभिक महीनों (मई से जुलाई, २०१२) में जैव-प्रौद्योगिकी उद्योग अनुसंधान सहायता परिषद् (बीआइआरएसी) परिसर, डिफेंस कालोनी, नई दिल्ली में उपलब्ध करवाए गए स्थान एवं सुविधाओं के लिए धन्यवाद करता हूँ। तदोपरांत भी उन्होंने प्रारंभिक भर्ती संबंधी एवं अन्य क्रियाकलापों में हमें आवश्यक सहायताएं उपलब्ध करवाना जारी रखा। मैं प्रो. एन. सत्यमूर्ति, निदेशक, आइआइएसईआर, मोहाली का भी आभार प्रकट करता हूँ कि उन्होंने उदारता से अपने संस्थान में बीपीयू का ट्रांज़िट कार्यालय स्थल-सुविधा प्रदान कर बीपीयू को "प्रथम मोहाली घर" उपलब्ध करवाया। मैं डॉ. राकेश तुली, कार्यपालक निदेशक, नाबी का बीपीयू की विकास यात्रा के प्रथम वर्ष विविध क्षेत्रों में समय-समय पर प्रदान की गई सहायता एवं परामर्श के लिए हार्दिक आभार प्रकट करता हूँ। मुझे वर्ष के दौरान लगभग प्रतिदिन उनसे संस्थान की प्रारंभिक अनुसंधान योजनाओं और रूपांतरण शोध के व्यावहारिक पक्ष व बीपीयू को

इसके लाभ आदि विषयों पर विचार-विमर्श करने का सौभाग्य प्राप्त हुआ।

'ज्ञान शहर' में अपनी भूमि पर बीपीयू के नियमित परिसर के निर्माण की दिशा में प्रो. वरिन्दर एस. चौहान, निदेशक, इंटरनेशनल सेंटर फॉर जेनेटिक इंजीनियरिंग एंड बायोटेक्नोलॉजी, नई दिल्ली की विद्वत्तापूर्ण अध्यक्षता में संस्थान की भवन समिति के उदारतापूर्ण मार्गदर्शन एवं विविध प्रकार की सहायता प्रगति-प्रशरता के लिए बीपीयू उनका आभार प्रकट करता है। डॉ. आर. एस. खांडपुर, महानिदेशक, पुष्पा गुजराल सांडस सिटी, जालंधर के नेतृत्व में परामर्शी निगरानी समिति (सीएमसी) ने सभी प्रयासों की आवधिक समीक्षा की, जिससे कि निर्धारित समय-सीमा में सभी कार्य सही ढंग पूरे हो सकें। मैं भवन समिति और परामर्शी निगरानी समिति के सभी सदस्यों का उनके मार्गदर्शन एवं परामर्श के लिए धन्यवाद करता हूँ।

मैं प्रो. के. विजय राघवन्, अध्यक्ष, शासी निकाय, बीपीयू एवं सचिव, जैवप्रौद्योगिकी विभाग, भारत सरकार का उनके विज्ञ परामर्श, मार्गदर्शन और संस्थान के विकास एवं प्रगति के लिए हर क्षेत्र में प्रदान किए सतत् सहयोग के लिए अपनी कृतज्ञता ज्ञापित करता हूँ। साथ ही मैं संस्थान की स्थापना में उनके सतत् संरक्षण, प्रबुद्ध मार्गदर्शन और सहयोग की भी कामना करता हूँ। वर्ष के दौरान प्राप्त की गई सफलताएँ बीपीयू स्टाफ के सहयोग एवं समर्थन तथा नाबी स्टाफ द्वारा समानात्मता की भावना से दी गई सहायता से संभव हो पाई हैं। बीपीयू की प्रगति में प्रत्यक्ष एवं परोक्ष रूप से जुड़े सभी व्यक्तियों का हम आभार प्रकट करते हैं। मैं संस्थान को मूल्य आवर्धित जैवप्रसंस्करण योजनाओं एवं कार्यक्रमों के माध्यम से ज्ञान और आर्थिक क्रियाकलापों के विकास के प्रमुख चालक के रूप में सभी क्षेत्रों में अग्रणी बनाने में आपसे सतत् मार्गदर्शन की अपेक्षा करता हूँ।

राजेन्द्र सांगवान

(डॉ. राजेन्द्र सिंह सांगवान)
मुख्य कार्यकारी अधिकारी

It is an exceptional opportunity, though a formidable task, to plan an institute for bioprocessing research at a time when the government hopes to place the country on fast track of economic growth through biology, in this endeavor bioprocessing encompasses several areas of opportunities. My assignment as founder Chief executive officer (CEO) of “Bioprocessing Unit (BPU)” has intensified my incitement and thinking on the visions, through the first year of planning its growth. It is a landmark decision of the Government of India to establish BPU at Mohali as an autonomous institute to undertake translational research in the area of bio-based processes. Its location in Punjab along-with a number of other synergising institutes marks the ambitious plan of developing a ‘Biocluster’ at Mohali that would function as an engine of growth around farm sector. The Department of Biotechnology (DBT), along with the Punjab State Council of Science and Technology have very thoughtfully planned to establish BPU and ‘National Agri-Food Biotechnology Institute (NABI) in vicinity to the ‘Biotechnology Park’ to catalyse the chain of innovation and technology applications from idea generation to investment in agri-food sector. To ensure a broader perspective and a one stop solution, the ‘Biocluster’ at Mohali is being development in the backdrop of the other institutes, specially Indian Institute of Science Education and Research (IISER), Institute of Nano Science and Technology (INST) and Indian School fo Business (ISB) within the same campus-aptly named as ‘Knowledge City’. In close neighbourhood in Mohali is located National Institute of Phamacecutical education and Research (NIPER), besides other institutes like Punjab University (PU) and Institute of Microbial Technology (IMTech) in the Tricity (Chandigarh-Mohali-Panchkula) region. The physical proximities are an excellent design to bring functional convergence at various levels from inter disciplinary education and research in frontier areas to skill and entrepreneurship development. I see this, as a golden beginning of a grand vision that would usher the region and country into investments in knowledge driven growth of agricultural economy. BPU is fortunate to be a part of this grand vision. I am honoured to have the privilege of working with the DBT in taking the first steps for attaining this vision through BPU.

The Government of Punjab generously contributed to this initiative by providing land and other logistic supports for the development of the BPU campus. BPU aims at emerging not only as a center of knowledge based innovative bioprocessing research but also as an instrument to link science-driven research to potential applications for new product avenues, problem solving,

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“Inquisitiveness drives knowledge generation; knowledge empowers creation; passion to link knowledge with applications leads to innovation; innovations serve the humanity in perennity”



Dr. Rajender Singh Sangwan

Chief Executive Officer
Bioprocessing Unit

improvement of available solution, alternate solutions etc. with biological and chemical approaches as the main focus. The bioprocessing R&D endeavors at BPU would have dynamics of actions in line with the emerging needs of society with respect to both edible and non-edible bio-products.

As a scientific subject, bioprocessing has a very broad territory, patronizing a host of R&D activities like harvesting chemicals from biomass of *in vitro* or field origin, cellular and enzymatic biotransformations, bio/chemical modifications, xenogenic production of biomolecules etc. Nevertheless, in certain ways they share commonalities like aims of handling bulkier (in volume or value) harvest, invoking linkages of research at various stages from early assessment till realization of potential benefits and applying real life pragmatics to research results and projections. Prospectus of several of these research avenues will draw the future faculty to BPU who would work for tangible outcomes. The institute at this formative stage, is converging its efforts towards processes and products related to valorization of agri-residues and processing of biomass to develop by-products and co-products. In the scheme of feed stocks being planned for processing research, the priority goes to the bioresources and biomass available in bulk, and as yet, little or sub-optimally utilized in spite of much better options of use. In that spirit, research and innovation programs at BPU are being planned with the aim of catalysing evolution of national strength around secondary products from agriculture. This entails pursuance of R&D activities with the goal of journey towards holistic or multi-product development.

To complete the value chain, BPU would also link its innovated, validated and up-scaled processes and/or products to the path of entrepreneurship development. BPU will particularly be catalytic to start-up companies through demonstrations and trainings for assimilating state of the art technologies and improvement of skill sets for applications in customised manner. Incubatory arm of BPU would facilitate early product development and help expansion of entrepreneurial sphere in the agri-food sector. This roadmap of translational research and technology dissemination is, in turn, expected to create/raise the value of agri-residues/agri-surplus and thereby sustain/augment farm income.

India annually produces about 250 million tons of food grains. This grain mass production accompanies co-production of non-grain biomass of magnitude of more than 300 million tons. In addition, enormous amounts of residual biomass is generated through

the non-grain agrarian activity involving vegetables, horticulture, sugarcane and other plantation crops including agroforestry. According to an estimate, this expands residual biomass to about 500 million tons per annum. Although a part of this biomass is utilized as feeds, forage etc., a predominant part remains unutilized or poorly utilized. Such biomass forms first feed stock (primary residues) deserving bioprocessing research and innovations for transformation into value added products. Further, secondary residues are generated as co-products of primary processing of grains, legumes etc. covering husks, hulls, shells, skins, peels etc. These sets of biomass can be processed to serve as premium sources for health and nutritional products, besides other valuable biochemicals and industrial chemicals. Tertiary residues comprise by-products of extractive and fractionation processes like pomaces, seed cakes, brans, medicinal and aroma herb extraction residues etc. These biomasses are not only rich sources of low and high molecular weight nutrient and non-nutrient phytochemicals but also have scope of further exploration of their constituents. In India, present extent of value additive processing of these bioresources, in a productive sense, is scanty due to several bottlenecks including technological, translational and supply chain issues. This necessitates an active and synergistic participation of stakeholders including farmers to enable rationalized economic benefits of technological products for each. Techno-benefaction of processing feedstock to primary producers through beginning of processing chain on farm (Farm Gate Processing) is also one of the important verticals to be raised for rapid developments in this area. Therefore, it is important to entail exploring simplest process led innovative solutions for support at this germane stage of entrepreneurship initiation among the farming/rural communities. Such distributed applications and benefits of processes are also impetus to idea generation and expansion of innovation space. Serial linking of the processes and products from this stage with the follow up hi-end stages for higher strength stakeholders could help sustain gains in quantitative and qualitative value-addition to diverse agri-residues for bringing them in the desirable utility chain.

BPU will promote, support and foster (i) incessant and integrated investigation of multiple aspects of processes and products, (ii) common theme environment for regular scientific interactions to evolve new frontiers of knowledge and applications, and (iii) catalyse the convergence of individual researches from BPU and elsewhere for economic product delivery. Intra-institutionally, BPU will amalgamate research and

innovation laboratory activities with the process optimization/development for production guidelines to test laboratory bench results through the production preferred parameters. Thus, BPU generates hope to in-house prototype platforms using state of art technologies developed anywhere nationally or globally, and optimize them to generate entrepreneurship. This defines BPU as probably the first institute of this nature in the country, to 'link bioresource knowledge with applications' through tangible tests of scalability and sustainability'.

Since chemical composition of each agri-residue is different, neither a single process nor a singular product approach may serve the purpose of economic harvest. Therefore, linearly linked multi-modular processes or integrated processing for products of diversified utilities (edible, phytochemicals, technical, reagent, industrial, energy, environmental etc.) constitute the ultimate goals for sustainability. At the same time, unlike academic processes of extraction, BPU aims at developing economic processes of extraction with minimal unit operations, lowest costs of operations, recyclability/recovery of non-feedstock inputs, environmental safety, extended organic value etc. Further, greener processes are desired for sustainability and protection from health risks. This entails R&D inputs and approaches of de novo as well as replicative and non-replicative nature for evolving pragmatic solutions as per regional and national needs with products of global state of the art.

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Transforming knowledge into innovations and their translation to the development of products and technologies is a slow process and involves research and developmental challenges as per required scales and situations. Therefore, even for the most promising scientific leads, field application of knowledge and innovation often takes several years. BPU is positioned to be catalytic to narrow this time gap. To a majority of academia, glitter and appreciation of applied research may not be as high as that of core science driven research. BPU hopes to nurture an ecosystem that would stimulate and share excitement in innovations and applications for societal good. Occasionally, such innovations may be specific to local bioresources and needs and therefore lead to regional outcomes rather than make a global impact. I am sure, as BPU grows by its faculty, infrastructure, science and applications, it would create a trail of successes on the fronts of bioprocessing critical for the country and thereby promote the growth and interests in such paradigms of bioscience, in coming years.

The founder year under this report has been very eventful in creating BPU as a legal entity by registering

itself as a Society under the Registration of Societies Act, 1860 as applicable to the state of Punjab and making it operational as an autonomous Institute under Department of Biotechnology (Govt. of India). It framed its core vision, mission, rules and regulations of its governance etc. The institute evolved its directions and guiding principles for research programs and began to build on specific activities around them. A talent search is in progress to attract faculty who would create new boundaries of knowledge and new brands/values of products in ensuing years.

I express my gratitude to the honourable members of the BPU Society, and the Governing Body of BPU for their learned guidance in research directions and enabling support for development of this institute as a future centre of excellence in agri-food bioprocessing. I am also grateful to the members of the BPU Scientific Advisory Committee for their intellectual advices in the ongoing journey of developing BPU's long-term and short-term research, innovational, translational and training programmes. The founding year saw BPU growing from multiple locations, until a bench work facility was developed at the interim facility. I am thankful to Dr. M.F. Bhan, the then Secretary, Department of Biotechnology for his valuable advices and patronage in these efforts. Indeed, any discussion with him helped me not only as a solution to the issue on notes but was also educative and a system of solutions. I also gratefully acknowledge the kind help extended by Dr. Renu Swarup in providing the space and facilities at Biotechnology Industry Research Assistance Council (BIRAC) premises in Defence Colony, New Delhi during early months (May to July 2012). Even thereafter, she kindly continued to facilitate logistic support to help us in the initial recruitment related activities. I thankfully acknowledge the generous support of Prof. N. Sathyamurthy, Director, IISER Mohali for providing the first Mohali home for BPU as Transit Office at his Institute Works Department building. I acknowledge the kind help and advice extended by Dr. Rakesh Tuli, Executive Director, NABI, at multifarious junctions of the first year journey towards development of the institute on different fronts. I have been fortunate to have the pleasure of discussing and debating with him the early research plans and their practical prospects of translational research useful from BPU perspective almost in every day mode during the year.

On the front of BPU regular Campus Development at the land in Knowledge City, a beginning could be made and a speedier path could be set with the generous guidance and multifarious support of the Building Committee.

(BC) of the institute under the erudite Chairmanship of Prof. Varinder S. Chauhan, Director, International Center for Genetic Engineering and Biotechnology, New Delhi. Consultant Monitoring Committee (CMC) led by Dr. R.S. Khandpur, Director General, Pushpa Gujral Science City, Jalandhar, took periodical review for all time endeavours to ensure that the things happen correctly and as per timelines . I am grateful to the BC and CMC members for their guidance and advice.

I express my gratitude to Prof. K. Vijay Raghavan, Chairman, Governing Body of BPU and Secretary, Department of Biotechnology (Govt. of India) for his learned advice, guidance and for facilitating enabling mechanisms for smooth growth and development of the institute on all fronts. I look forward for his continued

patronage, intellectual guidance and support to the endeavours in establishing BPU.

The events of the year that saw the direction of success could be possible due to the support and cooperation of the staff of BPU and help rendered by the staff of NABI in a common soul spirit.

I take this opportunity to thank everyone who helped BPU directly or indirectly during the year. I look forward to your continued guidance in developing this institute as a frontal framework in all respects to serve as a dominant driver of growth of knowledge and economic activity through value additive bioprocessing plans and programs.



Rajender Singh Sangwan ^{Ph.D.}
Chief Executive Officer

बीपीयू की उत्पत्ति एवं स्थापना का इतिहास
Genesis and Establishment of BPU

संस्थान 15 एकड़ भूमि में स्थापित किया जा रहा है, जिसमें अनुसंधान एवं नवाचार प्रयोगशालाएँ तथा प्रसंस्करण परिसर होगा। इस बीच संस्थान ने 10,000 वर्ग फुट क्षेत्र में सी-127 (द्वितीय तल), औद्योगिक क्षेत्र, अजीतगढ़, मोहाली पंजाब में एक अंतरिम सुविधा में कार्य प्रारंभ कर दिया है।

निम्नलिखित घटनाक्रम हैं जिन्होंने (1) एक संस्थान के रूप में बीपीयू की स्थापना एवं उत्पत्ति हुई (2) बीपीयू की स्थापना एवं प्रचालन के लिए वर्ष 2012-13 के कार्य निर्धारित किए:

5 दिसम्बर, 2006 भारत एवं कनाडा ने कृषि-खाद्य क्षेत्र में विज्ञान और प्रौद्योगिकी में सहयोग को बढ़ावा देने के लिए समझौता ज्ञापन पर हस्ताक्षर किए। कृषि-खाद्य जैवप्रौद्योगिकी पार्क और बीपीयू एवं नाबी जैसे अनुसंधान संस्थानों के विकास द्वारा इस क्षेत्र के संवर्धन का लक्ष्य रखा गया। (अनुलग्नक-1)

06 जून, 2008 पंजाब सरकार ने नाबी-बीपीयू दोनों संस्थानों की स्थापना के लिए एक-ही परिसर हेतु भूमि का अनुमोदन/स्थानांतरण डी.बी.टी. (भारत सरकार) को किया।

20 अगस्त, 2008 भारत की संघीय कैबिनेट ने ज्ञान शहर, मोहाली, पंजाब में जैव-प्रौद्योगिकी विभाग, विज्ञान एवं प्रौद्योगिकी मंत्रालय, भारत सरकार के एक स्वायत्तशासी संस्थान के रूप में जैव-प्रसंस्करण इकाई की स्थापना को स्वीकृति प्रदान की। (अनुलग्नक-2)

01 मई, 2012 डॉ. राजेन्द्र सिंह सांगवान ने बीपीयू के संस्थापक मुख्य कार्यपालक अधिकारी का प्रभार संभाला तथा बीआइआरएसी (डीबीटी), डिफेंस कालोनी, नई दिल्ली में बीपीयू सचिवालय प्रारंभ किया (अनुलग्नक-3)

20 अगस्त, 2012 बीपीयू ने ज्ञान शहर, सैक्टर-81, मोहाली में आइआइएसईआर के इंस्टिट्यूट वर्क्स डिपार्टमेंट (आइडब्ल्यूडी) भवन में अपना ट्रांसिट कार्यालय खोला।

21 अगस्त, 2012 बीपीयू ने लक्ष्य निर्धारण पर चर्चा के लिए अंतरिम तकनीकी सलाहकार समूह बैठक आयोजित की।

27 सितम्बर, 2012 बीपीयू ने पंजाब राज्य के लिए अनुप्रयोज्य रजिस्ट्रेशन ऑफ सोसायटी अधिनियम, 1860 के अंतर्गत संस्थान को सोसायटी के रूप में पंजीकृत करवाया तथा मैमोरेन्डम ऑफ

एसोसिएशन एवं इसके अंतर्गत नियम एवं विनियमों को अनुमोदित किया गया (अनुलग्नक-4 व अनुलग्नक-5)

09 नवम्बर, 2012 बीपीयू शासी निकाय की प्रथम बैठक डीबीटी, नई दिल्ली में आयोजित हुई। शासी निकाय ने बीपीयू के मैमोरेन्डम ऑफ एसोसिएशन और नियम एवं विनियम अपना शासी निकाय ने बीपीयू की वित्तीय व प्रशासनिक शक्तियाँ मुख्य कार्यपालक अधिकारी (डॉ. आर. एस. सांगवान) को सौंपी और संस्थान के कार्य से संबंधित प्रारंभिक प्रक्रिया को भी औपचारिक रूप प्रदान किया गया।

15 जनवरी, 2013 गमाडा ने ज्ञान शहर, सैक्टर-81, मोहाली पंजाब में नाबी-बीपीयू के कॉमन परिसर के लिए संशोधित जोड़ प्लान उपलब्ध करवाया। (अनुलग्नक-6)

18 फरवरी, 2013 बीपीयू अंतरिम सुविधा सी-127 (द्वितीय तल), औद्योगिक क्षेत्र, फेज़-8, अजीतगढ़, मोहाली में प्रारंभ हुआ।

12 मार्च, 2013 वैज्ञानिक सलाहकार समिति (एसएसी) की पहली बैठक बीपीयू अंतरिम सुविधा सी-127 (द्वितीय तल), औद्योगिक क्षेत्र, फेज़-8, अजीतगढ़ मोहाली में आयोजित की गई।

13 मार्च, 2013 बीपीयू की वित्त समिति की पहली बैठक जैवप्रौद्योगिकी विभाग, सीजीओ कॉम्प्लेक्स, लोधी रोड, नई दिल्ली में संपन्न हुई।

13 मार्च, 2013 बीपीयू शासी निकाय की दूसरी बैठक जैवप्रौद्योगिकी विभाग, सीजीओ कॉम्प्लेक्स, लोधी रोड, दिल्ली में हुई।

The institute is being established at a 15 acre plot of land to house research and innovation labs and processing premises. Meanwhile, the institute has begun of function from an interim facility of about 10, 000 square ft area at C-127 (2nd Floor), Industrial Area, S.A.S Nagar, Mohali, Punjab.

Following are the sequences of events that (i) led to the genesis and approval of BPU as an institute (ii) marked the follow up actions of the year 2012-13 for operationalization and establishment of BPU:

December 05, 2006 India and Canada signed MoU to strengthen the Science and Technology ties between two countries in Agri-Food Sector. The promotion of the sector envisaged in the form of development of Agri-Food Biotech Park and Research Institutes like BPU and NABI (Annexure-1).

June 06, 2008 Government of Punjab approved/transferred the land to DBT (Govt. of India) for establishment of NABI-BPU as Common Campus of the two institutes.

August 20, 2008 The Union Cabinet of India approved the establishment of Bioprocessing Unit as an autonomous institute in Knowledge City, Mohali Punjab under the Department of Biotechnology, Ministry of Science and Technology, Government of India (Annexure-2).

May 01, 2012 Dr. Rajender Singh Sangwan assumed charge as the founder Chief Executive Officer of BPU and operationalized a BPU Secretariat at BIRAC (DBT), Defence Colony, New Delhi (Annexure-3).

August 20, 2012 BPU opened its Transit Office at Institute Works Department (IWD) Building of Indian Institute of Science Education and Research (IISER), Mohali in Knowledge City, Sector-81, Mohali.

August 21, 2012 BPU organized an Interim Technical Advisory Group Meeting for discussion on vision development.

September 27, 2012 BPU registered as a Society under Registration of Societies Act 1860, as applicable to the State of Punjab, governed by the drawn and approved

Memorandum of Association and Rules and Regulations thereunder (Annexure-4 and Annexure-5).

November 09, 2012 First meeting of the Governing Body of BPU held at Department of Biotechnology, New Delhi. The GB approved and adopted the Memorandum of Association and Rules and Regulations of BPU. It also delegated financial and administrative powers of BPU to the Chief Executive Officer of the institute (Dr. R.S. Sangwan). It also formalized some of the early enabling mechanisms of functionality of the institute.

January 15, 2013 Greater Mohali Area Development Authority (GMADA) provided the revised Zoning Plan for proceeding with the NABI-BPU Common Campus Establishment at Knowledge City, Sector-81, Mohali-140306 (Punjab). (Annexure-6)

February 18, 2013 BPU Interim Facility operationalized at C-127 (2nd Floor), Industrial Area, Phase-8, S.A.S Nagar, Mohali.

March 12, 2013 First meeting of Scientific Advisory Committee (SAC) held at BPU Interim Facility, C-127, Phase-8, Industrial Area, S.A.S. Nagar, Mohali-160071.

March 13, 2013 First meeting of the Finance Committee of BPU held at the Department of Biotechnology, CGO Complex, Lodhi Road, New Delhi.

March 13, 2013 Second meeting of the Governing Body held at the Department of Biotechnology, CGO Complex, Lodhi Road, New Delhi.

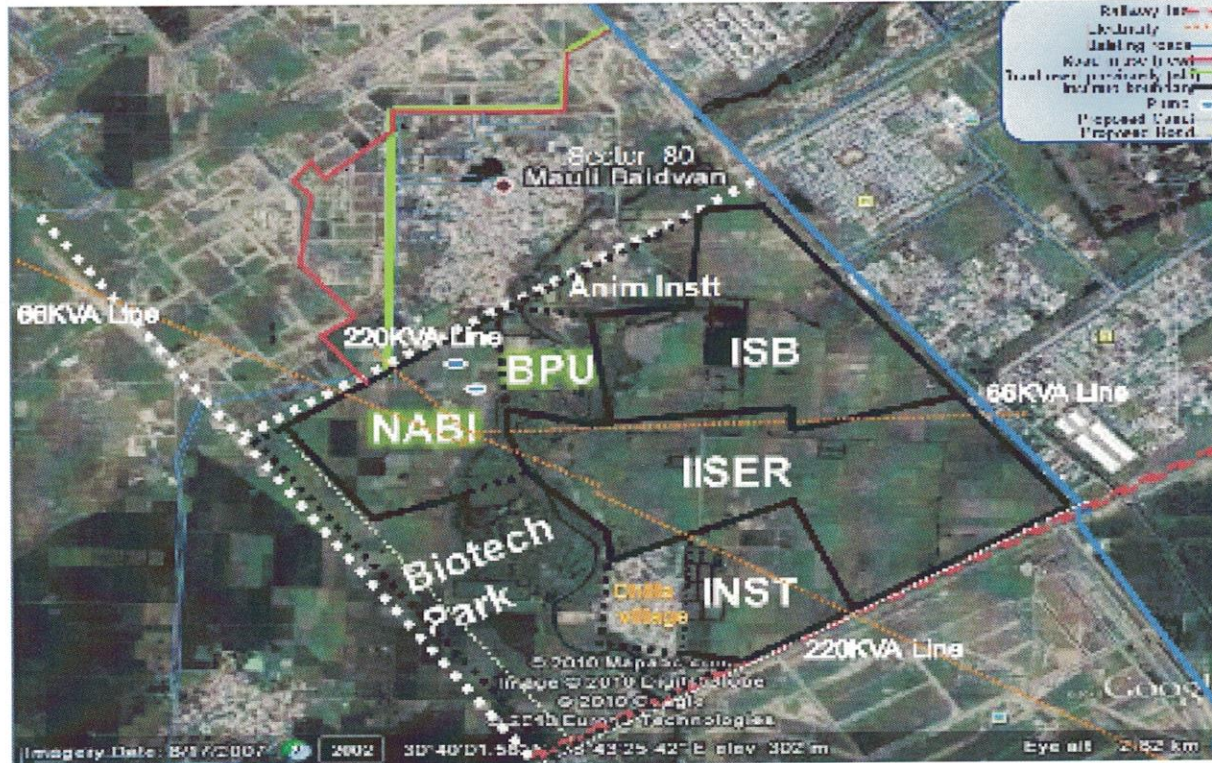
“ज्ञान शहर” संस्थानों के क्लस्टर के बीच बीपीयू BPU among the Cluster of Knowledge City Institutions

सैक्टर-81, मोहाली में “ज्ञान शहर” व घटक संस्थानों का दृश्य : एनिम संस्थान, एनिमेशन संस्थान (सूचना एवं प्रसारण मंत्रालय, भारत सरकार) ; बीपीयू, जैवप्रसंस्करण इकाई (जैवप्रौद्योगिकी विभाग, भारत सरकार); बायोटेक पार्क, जैवप्रौद्योगिकी पार्क (पंजाब राज्य विज्ञान एवं प्रौद्योगिकी परिषद्); आइआइएसईआर, भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान (मानव संसाधन विकास मंत्रालय, भारत सरकार); आइएनएसटी, नैनो विज्ञान एवं प्रौद्योगिकी संस्थान (विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार); आइएसबी, इंडियन बिजनेस स्कूल (कोरपोरेट संस्थान); नाबी, राष्ट्रीय कृषि-खाद्य जैवप्रौद्योगिकी संस्थान (जैवप्रौद्योगिकी विभाग, भारत सरकार)।

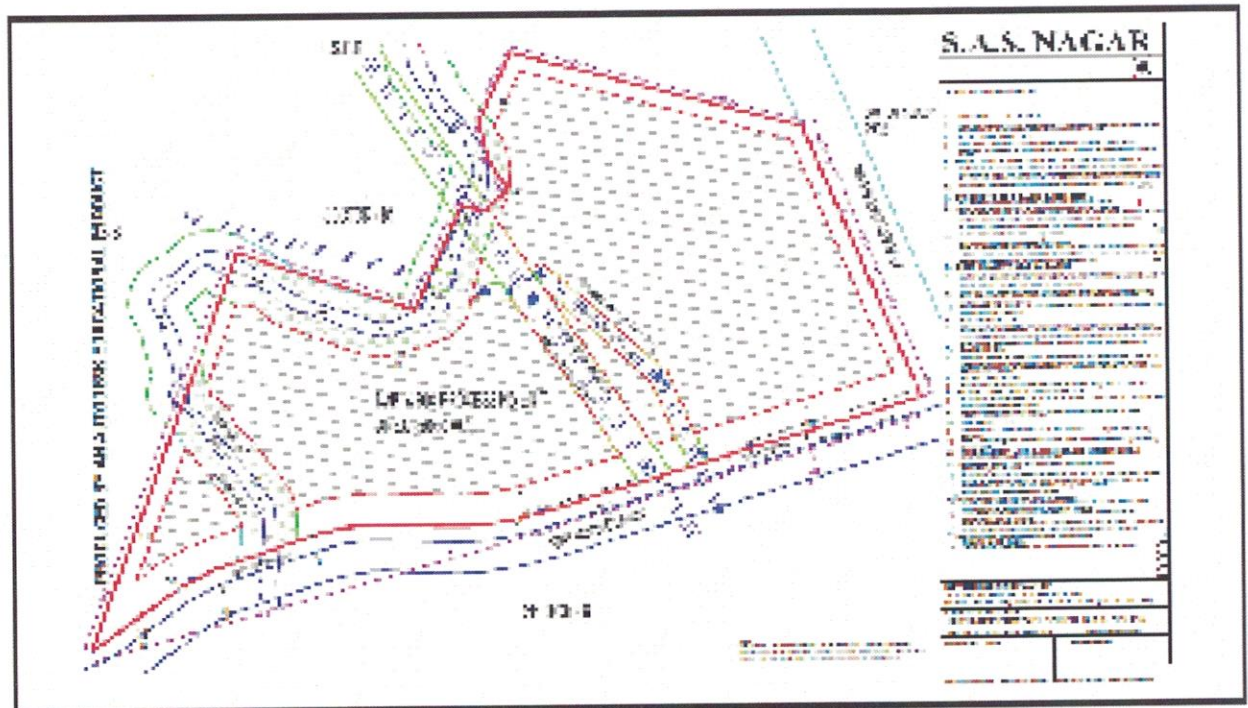
A landscape of the contours and constituent institutions of the Knowledge City at Sector-81, Mohali (Punjab).

Animation Institute (Ministry of Information Broadcasting, Govt. of India); BPU, BioProcessing Unit (DBT); Biotech Park, Biotechnology Park (Punjab State Council of Science and Technology); IISER, Indian Institute of Science Education and Research (Ministry of Human Resource Development, Govt. of India); INS, Indian Institute of Nano Science and Technology (DBT); ISB, Indian School of Business (Corporate Institution); NAE, National Agri-Food Biotechnology Institute (DBT).

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गमाडा द्वारा अनुमोदित संशोधित जोनिंग प्लान Revised Zoning Plan approved by GMADA



बीपीयू के संस्थान भवन की भूमि का एक दृश्य A view of BPU's institute building plot



आइआइएसईआर, मोहाली में ट्रांज़िट ऑफिस Transit Office at IISER, Mohali



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डॉ. एम. के. भान, तत्कालीन सचिव, डीबीटी आइआइएसईआर, मोहाली में डॉ. आर.एस. सांगवान, मुख्य कार्यकारी अधिकारी, बीपीयू की उपस्थिति में बीपीयू के ट्रांज़िट ऑफिस का २० अगस्त, २०१२ को उद्घाटन करते हुए। प्रो. एन. सत्यमूर्ति, निदेशक, आइआइएसईआर; डॉ. राकेश तुली, कार्यपालक निदेशक, नाबी तथा डॉ. राजेश कपूर, सलाहकार, डीबीटी ने अवसर की शोभा बढ़ाई।

Dr. M. K. Bhan, the then Secretary DBT inaugurated the Transit Office of BPU at IWD Building of IISER Mohali, in the presence of Dr. R.S. Sangwan, Founding CEO, BPU, on August 20, 2012.

Prof. N. Sathyamurthy, Director IISER, Dr. Rakesh Tuli, Director, NABI and Dr. Rajesh Kapur, Advisor, DEB, graced the occasion.

अंतरिम सुविधा Interim Facility



डॉ. (श्रीमती) मंजू शर्मा, पूर्व सचिव, डीबीटी, भारत सरकार ने मोहाली, पंजाब में बीपीयू अंतरिम सुविधा का विधिवत् उद्घाटन डॉ. आर.एस. सांगवान, मुख्य कार्यकारी अधिकारी, बीपीयू की उपस्थिति में किया। डॉ. सी. आर. भाटिया, पूर्व सचिव, डीबीटी, भारत सरकार ; प्रो. के. के. भूटानी, निदेशक, नाईपर, मोहाली और डॉ. राकेश तुली, कार्यपालक निदेशक, नाबी ने अवसर की शोभा बढ़ाई।

Dr. (Mrs.) Manju Sharma, Former Secretary, Department of Biotechnology (Govt. of India) inaugurated the Interim Facility of BPU at Mohali, Punjab, in the presence of Dr. R.S. Sangwan, CEO, BPU. Dr. C.R. Bhatia, former Secretary, DBT Prof. K.K. Bhutani, Director, National Institute of Pharmaceutical Education and Research, Mohali, and Dr. Rakesh Tuli, Executive Director, NABI graced the occasion.

बीपीयू अंतरिम सुविधा के उद्घाटन के उपरांत उच्च-पदधारियों का समूह चित्र।
A group photograph of the dignitaries after the Inauguration of the Interim Facility.



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बीपीयू अंतरिम सुविधा (औद्योगिक क्षेत्र, एस.ए.एस नगर, मोहाली, पंजाब) का बाह्य दृश्य।

External view of BPU Interim Facility at Industrial Area, S.A.S. Nagar, Mohali, Punjab INDIA

बीपीयू अंतरिम सुविधा (औद्योगिक क्षेत्र, एस.ए.एस नगर, मोहाली, पंजाब) का आंतरिक दृश्य।

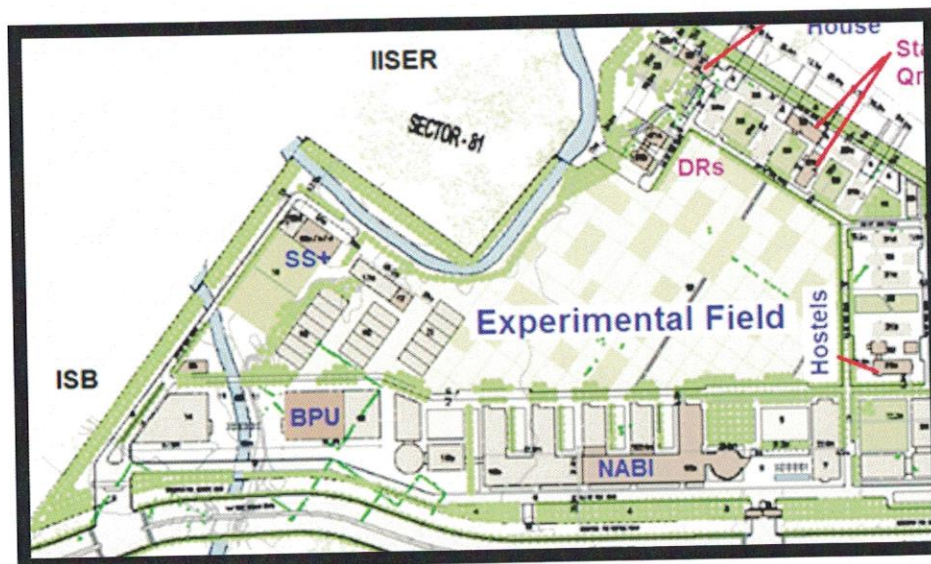
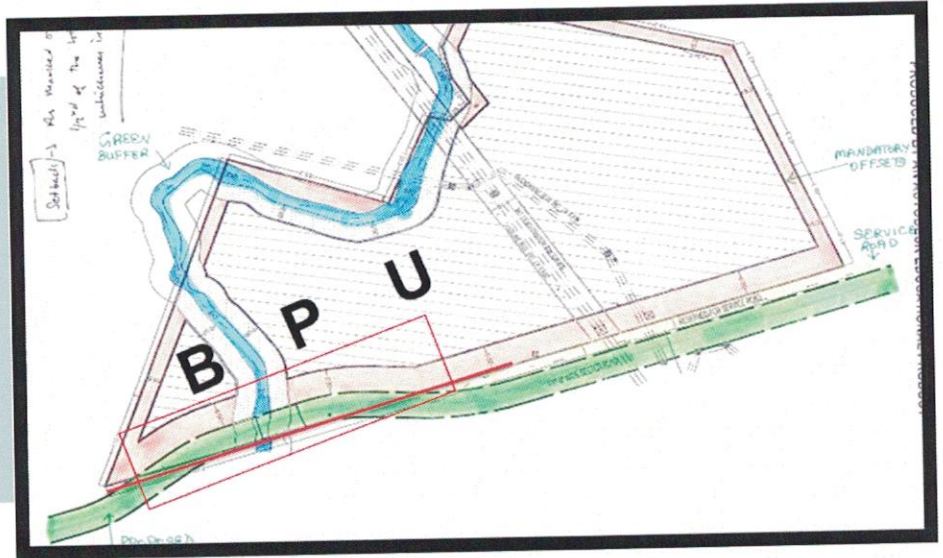
Internal view of BPU Interim Facility at Industrial Area, S.A.S. Nagar, Mohali, Punjab, INDIA



परिसर विकास Campus Development

ज्ञान शहर (सेक्टर-८१), मोहाली, पंजाब में बीपीयू और नाबी के नियमित परिसर के विकास के लिए चिह्नित भूमि का गमाडा द्वारा अनुमोदित जोनिंग प्लान

Greater Mohali Area Development Authority approved Zoning Plan of the plot of land meant for development of regular Campus of BPU and NABI at Knowledge City Mohali (Punjab).



बीपीयू और नाबी के अनुसंधान एवं विकास भवनों तथा सार्वजनिक सुविधाओं का निर्माण के कार्य योजना के अंतर्गत नक्शा

Footprint of R&D buildings of BPU and NABI and common facilities of the two institutes under action plan of construction at Knowledge City, Mohali-Punjab.

दूरदृष्टि, लक्ष्य एवं उद्देश्य
Vision, Mission and Objectives

दूरदृष्टि

जैव प्रसंस्करण एवं जैवउत्पाद अनुसंधान एवं विकास प्रणाली, ज्ञान, प्रौद्योगिकी, लीड्स इत्यादि को उत्पादन प्रणाली से जोड़ने के लिए मुख्य अनुसंधान एवं नवाचार संगठन होना तथा कृषि प्रसंस्करण व कृषि खाद्य उत्पाद संबंधी उद्यमों के लिए उद्भवन संस्थान के रूप में कार्यकरण तथा राष्ट्रीय व अंतर्राष्ट्रीय संस्थानों एवं उद्योगों के साथ प्रगामी कार्यकारी संपर्क/नैटवर्क/सहयोग के माध्यम से कृषि औद्योगिक विकास में गति लाने हेतु जैवप्रसंस्करित उत्पादों के लिए पद्धतियों व प्रौद्योगिकियों के रूपांतरण, नवाचार एवं संवर्धन में अग्रणी भूमिका का निर्वाह करना।

लक्ष्य

गौण कृषि को बढ़ावा देने के लिए कृषि-खाद्य/कृषि-उत्पाद के जैवप्रसंस्करण से संबंधित पद्धतियों और प्रौद्योगिकियों की परीक्षण, वैधता प्रदान करना, रूपांतरण, नवाचार, सुधार, संवर्धन और उन्हें सहयोजित करना।

प्रयोगशाला से बाजार श्रृंखला में उद्यमियों/हितधारकों इत्यादि को प्रौद्योगिकी प्रदर्शन, प्रशिक्षण, एवं उन्हें संगठित करने साथ-साथ कृषि खाद्य एवं गौण कृषि के क्षेत्रों में उत्पन्न विकास, प्रौद्योगिकी रूपांतरण, उत्पाद गुणवत्ता आश्वासन इत्यादि के संबंध में अनुसंधान एवं नवाचार प्रणालियों के विकास के लिए जैवसंसाधन संबंधी ज्ञान एवं अनुसंधान एवं विकास मार्ग एवं संभावनाओं का सृजन करना।

उद्देश्य

जैवउत्पाद, कृषि-खाद्य, कृषि-उत्पाद इत्यादि के प्रसंस्करण से संबंधित ज्ञान, पद्धतियों, प्रौद्योगिकियों तथा प्रक्रियाओं में नवाचार का ईष्टतमीकरण, संवर्धन एवं रूपांतरण करना।

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जैवप्रसंस्करण संसाधनों, प्रक्रियाओं एवं उत्पादों इत्यादि के संबंध में प्रशिक्षण, प्रौद्योगिकीय हस्तक्षेप, मूल्य आवर्धन, विपणन सृजन एवं समीक्षा तथा मॉडलों इत्यादि के माध्यम से जैवप्रसंस्करण एवं कृषि-खाद्य क्षेत्र में सुधार एवं परिवर्तन को प्रोत्साहित करना।

जैव प्रसंस्करण में समान रुचि/संबद्ध उद्यमों, औद्योगिक संस्थानों, नई कम्पनियों, संसाधनधारकों, अनुसंधान एवं विकास संगठनों, शैक्षिक व सेवा संस्थानों, व्यक्तियों अथवा नवाचारक समूहों के साथ साझेदारी में और/अथवा सहयोग के माध्यम से संपर्क को बढ़ावा देना।

मूल्य-आवर्धित/नवीन उत्पादों के विकास के लिए जैवप्रसंस्करण से संबंधित नवाचार प्रणालियों में उन्नति एवं संश्लेषण तथा समान रुचि के समूहों/कम्पनियों/उद्यमों इत्यादि के लिए उद्भवन/सेवा संस्थान के रूप में कार्य करना।

बीपीयू, नाबी तथा/अथवा सार्वजनिक संस्थानों एवं/अथवा सार्वजनिक अधिकारक्षेत्र/ओपन सोर्स व/अथवा भारत और विदेश में अन्य स्रोतों से उपलब्ध प्रौद्योगिकियों एवं प्रक्रियाओं का अधिकार के मामलों में लाइसेंस/समझौते/पारस्परिक सहमति के माध्यम से परीक्षण, वैधता प्रदान करना, ईष्टतमीकरण व संवर्धन इत्यादि करने में सहायता प्रदान करना।

VISION

To be a nodal research and innovation organization for linking bioprocess and bioproduct R&D system knowledge, technology, leads etc. with production system, and serve as incubatorial platform for agri-process and agri-food product related entrepreneurship along with a frontal role in translation, innovation, optimization and up-scaling of approaches and technologies for bioprocessing products to catalyze agro-industrial growth through progressive functional linkages/network/collaborations with institutions and industries nationally and globally.

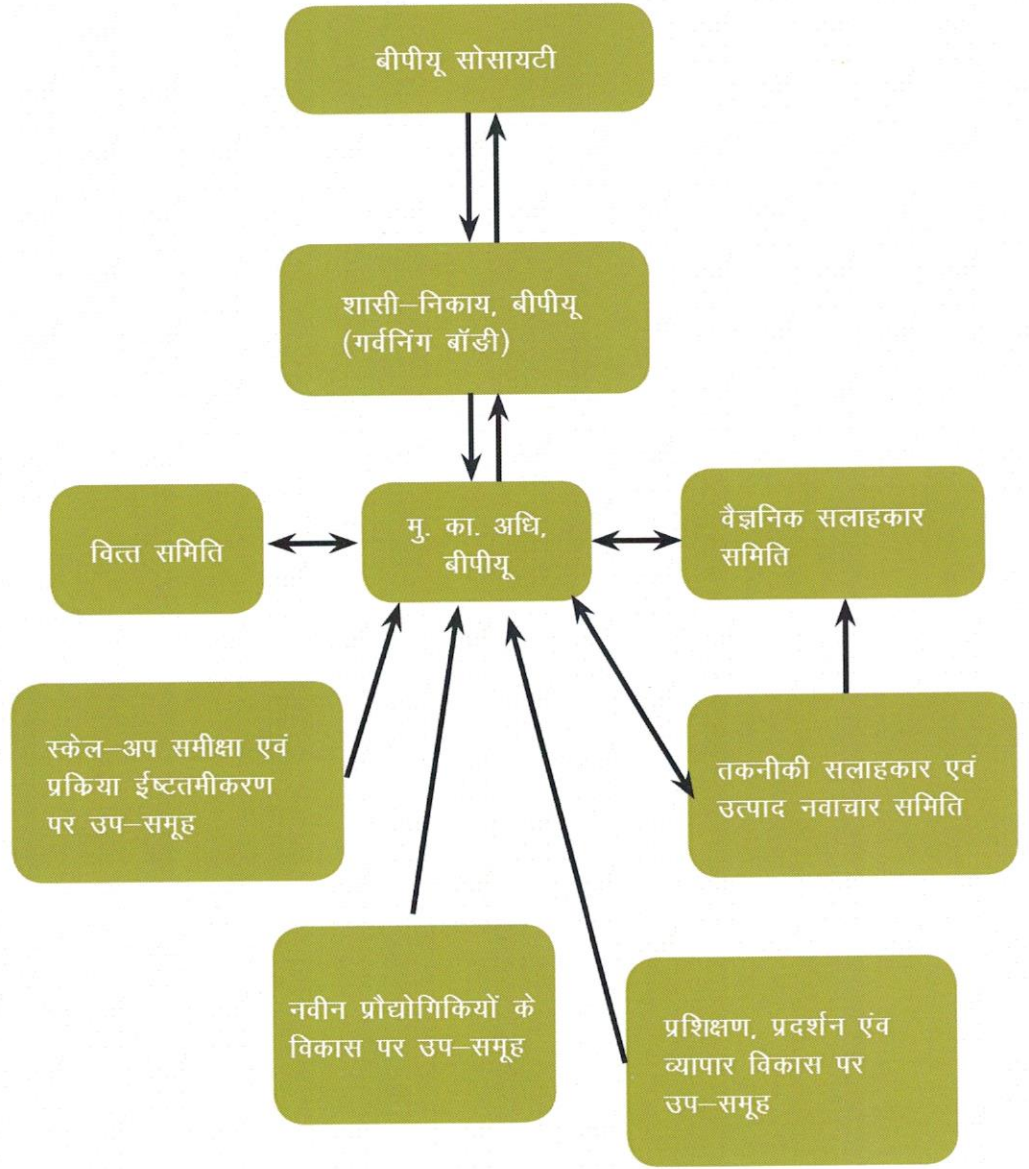
MISSIONS

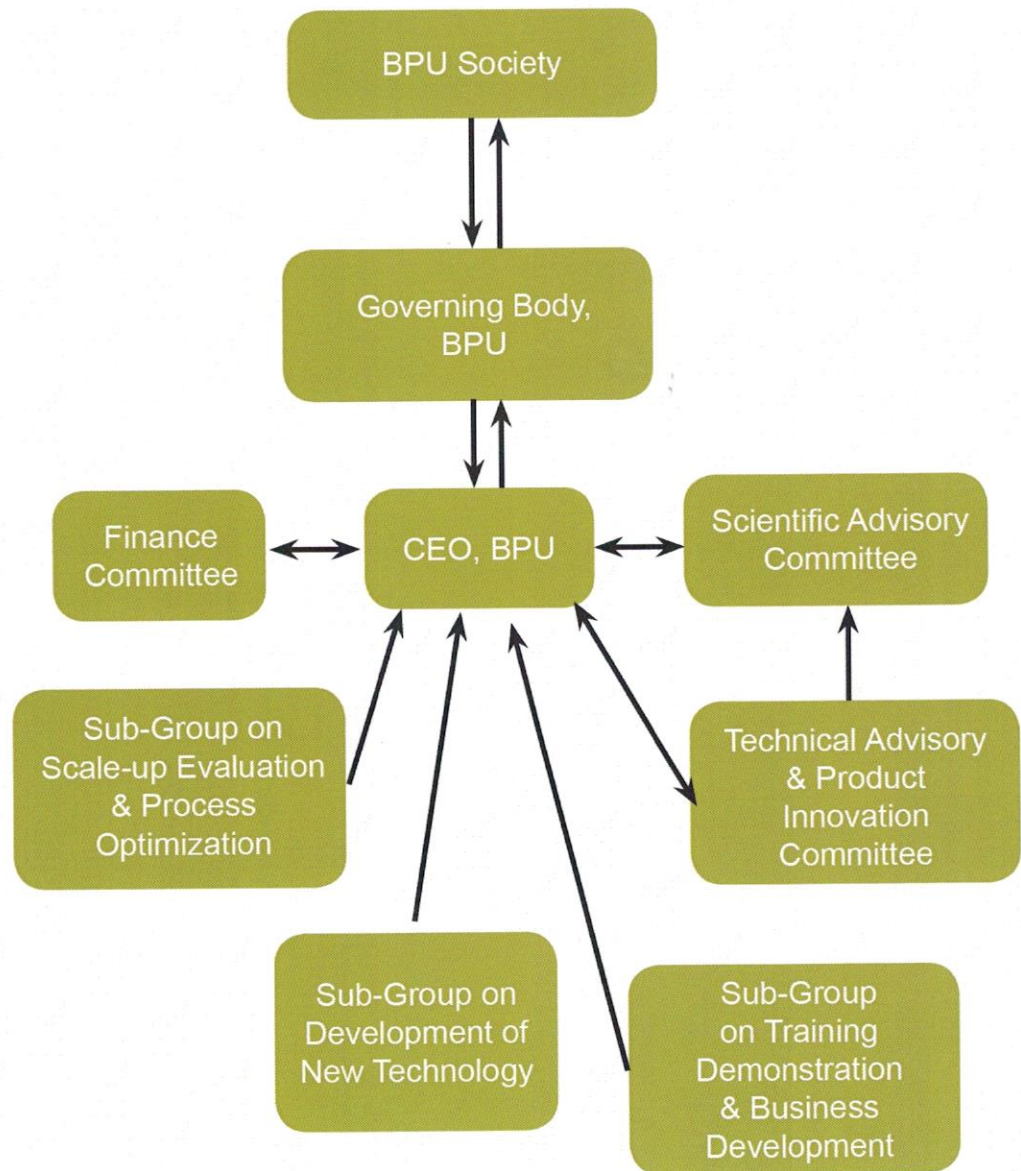
- To test, validate, translate, innovate, improve, up-scale and integrate approaches and technologies related to bioprocessing of agri-food/agri-mass for promotion of secondary agriculture.
- To generate bioresources related knowledge and advance R&D leads and potential for the growth of research and innovation systems towards product development, technology translation, product quality assurance etc in the sectors of agri-food and secondary agriculture including technology demonstrations, training, clustering of entrepreneurs/stakeholders etc. in the lab-to-market chain.

OBJECTIVES

- To carry out innovations, optimization, up-scaling and translation of knowledge, approaches, technologies and processes related and/or relevant to processing of biomass, agri-food, agri-produce etc.
- To catalyse improvement and transformation of bioprocessing and agri-food sector through training, technological interventions, value addition, cultivating and evaluating ideas and model(s) etc. related to bioprocessing resources, processes and products etc.
- To promote synergism among bioprocessing interest/relevant entrepreneurs, industrial establishments, start-up companies, resource holders, research and development institutes, educational and service institutions, individuals or innovator groups to function in partnership and/or collaborative mode.
- To advance and synergise innovation systems related to bioprocessing for development of value-added/new/novel products and to serve as an incubator/service platform for the common interest groups/companies/entrepreneurs etc.
- To facilitate testing, validation, optimization, up-scaling etc. of the technologies and processes developed by the Bio Processing Unit (BPU), National Agri-Food Biotechnology Institute (NABI) and /or public Institutions and/or those available through public domain/open source and/or from other sources in India and abroad, after acquiring/adopting them through licensing/agreement/mutual understanding/consent etc. in case of proprietary issues.

शासन-पद्धति
Governance at BPU





बीपीयू सोसायटी के सदस्य

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प्रो. अशोक पांडेय

प्रमुख
जैवप्रौद्योगिकी विभाग,
सी एस आई आर, त्रिवेन्द्रम

प्रो. के. वी. वेंकटेश

रासायनिक अभियांत्रिकी विभाग
भारतीय प्रौद्योगिकी संस्थान, मुम्बई, महाराष्ट्र

प्रो. आनंद बचावत

भारतीय विज्ञान एवं शिक्षा अनुसंधान संस्थान
ज्ञान शहर, सैक्टर-81, मनोली डाकघर
मोहाली-140306

प्रो. राम राजशेखरन्

निदेशक
केन्द्रीय खाद्य प्रौद्योगिकीय अनुसंधान संस्थान, मैसूर

डॉ. अरुण के. सिन्हा

वरिष्ठ प्रिंसिपल वैज्ञानिक
जैव संसाधन प्रौद्योगिकी संस्थान,
पालमपुर, हिमाचल प्रदेश

प्रो. बाँब रास्टल

प्रमुख
फूड एंड बायोप्रोसेसिंग रिसर्च ग्रुप
युनिवर्सिटी ऑफ रीडिंग, यू.के.

डॉ. अनंत चक्रवर्ती

प्रतिष्ठित विश्वविद्यालय प्रोफेसर
कलकत्ता विश्वविद्यालय

डॉ. राजेश कपूर

सलाहकार/वैज्ञानिक 'जी', जैव-प्रौद्योगिकी विभाग
विज्ञान एवं प्रौद्योगिकी मंत्रालय, सीजीओ कॉम्प्लेक्स, लो
रोड, नई दिल्ली-110003

डॉ. आर. एस. सांगवान

मुख्य कार्यकारी अधिकारी
जैव प्रसंस्करण इकाई (बीपीयू)
सी-127, द्वितीय तल, फेज-8, इन्डस्ट्रीयल एरिया
एस.ए.एस. नगर, मोहाली-160071, पंजाब

डॉ. रिक ग्रीन

वाइस प्रिंसिपल (टैक.)
पीओएस बायोसाइंसिस, सास्कटून, कनाडा

डॉ. अनुराग एस. राठौर

प्रोफेसर
केमिकल इंजीनियरिंग विभाग
भारतीय प्रौद्योगिकी संस्थान, नई दिल्ली

डॉ. राकेश तुली

कार्यपालक निदेशक
राष्ट्रीय कृषि-खाद्य जैवप्रौद्योगिकी संस्थान
सी-127, द्वितीय तल, फेज-8, इन्डस्ट्रीयल एरिया
एस.ए.एस. नगर, मोहाली-160071, पंजाब

Scientific Advisory Committee

Dr. J. S. Yadav

CSIR Bhatnagar Fellow & Former Director,
Indian Institute of Chemical Technology(ICT),
Uppal Road, Hyderabad

Dr. H. P. Singh

Former DDG (Horticulture), and The Founder and
Chairman, Confederation of Horticulture Associations
of India (CHAI), 249, D Block, Sector 18A, Dwarka,
Indian Council of Agricultural Research, New Delhi

Dr. S. Natesh

Former Sr. Advisor,
Department of Biotechnology,
Ministry of Science & Technology (Govt. of India),
CGO Complex, Lodhi Road, New Delhi

Prof. K. B. Ramachandran

Department of Biotechnology,
Indian Institute of Technology,
Madras, Chennai Post Office, Chennai

Prof. H. N. Mishra

Department of Agriculture and Food Engineering,
Indian Institute of Technology,
Kharagpur, West Bengal

Dr. Rajendra Gupta

Coordinator,
R&D Plantations, Zhandu Pharmaceuticals,
New Delhi

Prof. Arvind Lali

Coordinator,
DBT-ICT,
Centre of Energy Biosciences,
Institute of Chemical Technology,
Mumbai-400019

Prof. Ashok Pandey

Head,
Biotechnology Division,
Indian Institute of Inter-disciplinary Science and
Technology,
Trivandrum

Dr. K. K. Bhutani

Director,
National Institute of Pharmaceutical Education and
Research, Sector 67, S.A.S. Nagar, Mohali, Punjab

Prof. Anand Bachhawat

Indian Institute of Science Education and Research
Knowledge City, Sector-81, SAS Nagar, Mohali, Punjab

Prof. K. V. Venkatesh

Department of Chemical Engineering,
Indian Institute of Technology, Bombay, Maharashtra

Dr. Arun K. Sinha

Senior Principal Scientist,
Institute of Bio resource Technology, Palampur

Dr. Ram Rajasekharan

Director,
Central Food Technological Research Institute, Mysore

Dr. Anant Chakravorty

Distinguished University Professor,
University of Calcutta

Prof. Bob Rastell

Head,
Food & Bioprocessing, Research Group
University of Reading, UK

Dr. Rick Green

Vice-President (Tech),
POS Biosciences,
Saskatoon, Canada

Dr. Anurag S. Rathore

Professor,
Department of Chemical Engineering,
Indian Institute of Technology,
New Delhi

Dr. Rajesh Kapur

Advisor/Scientist 'G',
Department of Biotechnology,
Ministry of Science & Technology (Govt. of India),
CGO Complex, Lodhi Road, New Delhi

Dr. Rakesh Tuli

Executive Director,
National Agri-Food Biotechnology Institute,
C-127, Phase-8, Industrial Area, S.A.S. Nagar, Mohali

Dr. R. S. Sangwan

Chief Executive Officer,
Bio-Processing Unit (BPU),
C-127, Second Floor, Phase-8,
Industrial Area, S.A.S. Nagar, Mohali

भवन समिति

डॉ. वी. एस. चौहान

निदेशक

जेनेटिक इंजीनियरिंग एवं जैवप्रौद्योगिकी अंतर्राष्ट्रीय केन्द्र,
अरुणा असफ अली मार्ग, नई दिल्ली-110067

डॉ. आर. एस. खांडपुर

महानिदेशक

पुष्पा गुजराल साइंस सिटी, कपुरथल्ला, पंजाब

डॉ. राकेश तुली

कार्यपालक निदेशक

राष्ट्रीय कृषि-खाद्य जैवप्रौद्योगिकी संस्थान
सी-127, द्वितीय तल, सैक्टर-81
मोहाली - 140306, पंजाब

डॉ. आर. एस. सांगवान

मुख्य कार्यकारी अधिकारी

जैव प्रसंस्करण इकाई (बीपीयू)

सी-127, द्वितीय तल, सैक्टर-81
मोहाली - 140306, पंजाब

42

इंजीनियर एन. के. वर्मा

चीफ इंजीनियर

वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
नई दिल्ली

श्री के. के. कौल

पूर्व चीफ टाउन प्लानर

ग्रेटर मोहाली एरिया डिवलपमेंट अथोरिटी, चण्डीगढ़

डॉ. जगदीप सिंह

समन्वयक

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान
नई दिल्ली

डॉ. राजेश कपूर

सलाहकार/वैज्ञानिक 'जी'

जैव-प्रौद्योगिकी विभाग
विज्ञान एवं प्रौद्योगिकी मंत्रालय
सीजीओ कॉम्प्लैक्स, लोधी रोड
नई दिल्ली - 110003

श्रीमती अनुराधा मित्रा

वित्त सलाहकार

जैव-प्रौद्योगिकी विभाग
विज्ञान एवं प्रौद्योगिकी मंत्रालय
सीजीओ कॉम्प्लैक्स, लोधी रोड
नई दिल्ली - 110003

श्री श्रीशन् राघवन्

संयुक्त सचिव (प्रशासन)

जैव-प्रौद्योगिकी विभाग
विज्ञान एवं प्रौद्योगिकी मंत्रालय
सीजीओ कॉम्प्लैक्स, लोधी रोड
नई दिल्ली - 110003

डॉ. ए. वामसी कृष्णा

वैज्ञानिक 'सी'

जैव प्रौद्योगिकी विभाग, नई दिल्ली

श्री विक्रम सिंह

प्रशासनिक अधिकारी

राष्ट्रीय कृषि-खाद्य जैवप्रौद्योगिकी संस्थान
सी-127, द्वितीय तल, सैक्टर-81
मोहाली - 140306, पंजाब

Building Committee

Dr. V. S. Chauhan

Director,
International Centre for Genetic
Engineering & Biotechnology,
Aruna Asaf Ali Marg,
New Delhi

Dr. R. S. Khandpur

Director,
Pushpa Gujral Science City, Kapurthala,
Punjab

Dr. Rakesh Tuli

Executive Director,
National Agri-Food Biotechnology Institute,
C-127, Phase-8, Industrial Area,
Mohali

Dr. R. S. Sangwan

Chief Executive Officer,
Bio-Processing Unit (BPU),
C-127, Second Floor, Phase-8, Industrial Area, Mohali

Er. N. K. Verma

Chief Engineer,
Council of Scientific & Industrial Research,
New Delhi

Shri K. K. Kaul

Former Chief Town Planner,
GMADA, Chandigarh

Dr. Jagdeep Singh

Coordinator,
Indian Institute of Science Education and Research,
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Advisor/Scientist 'G',
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Lodhi Road, New Delhi

Shri Sreeshan Raghavan

Joint Secretary (Admin),
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Ministry of Science & Technology
(Govt. of India), CGO Complex,
Lodhi Road, New Delhi

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Scientist C,
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Ministry of Science & Technology
(Govt. of India), CGO Complex,
Lodhi Road, New Delhi

Shri Vikram Singh

Administrative Officer ,
National Agri-Food Biotechnology Institute, C-127,
Phase-8, Industrial Area,
Mohali

तकनीकी सलाहकार एवं उत्पाद नवाचार समिति (टेपिक)

डॉ. रिचर्ड के आवुसु-अपेनटेन

फैकल्टी ऑफ हैल्थ एंड लाइफसाइंसिस स्कूल ऑफ
बायोमैडिकल साइंसिस, यूनिवर्सिटी ऑफ अल्स्टर क्रोमोर
रोड कोलरेन, बी टी 52 1 एस ए, यू. के.

सुश्री बेला कश्यप

उपाध्यक्ष (गुणवत्ता एवं उत्पाद विकास)
हिन्दुस्तान गम एंड केपिकल्स लि.
भिवानी (हरियाणा)

(विस्तार किया जा रहा है)

Technical Advisory and Product Innovation Committee

Dr Richard K. Owusu-Apenten

Faculty of Health and Lifesciences School of Biomedical
Sciences, University of Ulster Cromore Road, Coleraine,
BT52 1SA,
UK

Ms. Bela Kashyap

Vice President (Quality & Product Dev.)
Hindustan Gum & Chemicals Ltd.,
Bhiwani (Haryana)

(Being Expanded)

परामर्श निगरानी समिति (सी एम सी)

डॉ. आर. एस. खांडपुर

निदेशक

पुष्पा गुजराल साइंस सिटी

कपूरथला

पंजाब

डॉ. जगदीप सिंह

समन्वचक

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान

नई-दिल्ली

इंजी. एन. के. वर्मा

चीफ इंजीनियर

वैज्ञानिक तथा औद्योगिक अनुसंधान

नई-दिल्ली

श्री. आर. एल शर्मा

सहायक निदेशक (प्रशासन एवं वित्त)

राष्ट्रीय कृषि-खाद्य जैव प्रौद्योगिकी संस्थान

सी-127, फेस-8, औद्योगिक क्षेत्र

मोहाली

Consultants Monitoring Committee

Dr. R. S. Khandpur

Director,

Pushpa Gujral Science City,

Kapurthala, Punjab

Dr. Jagdeep Singh

Coordinator,

Indian Institute of Science Education and Resaearch,

New-Delhi

Er. N. K. Verma

Chief Engineer

Council of Scientific & Industrial Research,

New Delhi

Sh. R. L. Sharma

Associate Director (Admin & Finance),

National Agri-Food Biotechnology Institute,

C-127, Phase-8, Industrial Area,

Mohali

भर्ती एवं स्टाफ की स्थिति
Recruitment and Staff Status

वर्ष के दौरान बीपीयू ने अनुसंधान संकाय सदस्यों, प्रशासनिक और तकनीकी कर्मियों की भर्ती के लिए त्रि-विज्ञापन जारी किए। मई, 2012 (विज्ञापन सं. बीपीयू-1/2012) में जारी किए गए एक विज्ञापन के परिणामस्वरूप प्रतिनियुक्ति आधार पर एक यूनिट इंजीनियर की नियुक्ति की गई। तदुपरांत अक्टूबर, 2012 (विज्ञापन सं. बीपीयू-2/2012) में प्रकाशित विज्ञापन के आधार पर प्रतिनियुक्ति आधार पर प्रशासनिक अधिकारी, भण्ड एवं क्रय अधिकारी, प्रबंध सहायक तथा एक वैज्ञानिक 'सी' की भर्ती की गई। प्रशासनिक स्टाफ ने कार्यभार ग्रहण कर लिया है, किंतु संकाय सदस्य द्वारा अभी कार्यभार ग्रहण किया जाना है, जबकि भण्डार एवं क्रय अधिकारी के रूप में चयनित उम्मीदवार ने कार्यभार ग्रहण नहीं किया।

परियोजना वैज्ञानिक एवं अनुसंधान एसोसिएट की संविदागत आधार पर नियुक्ति के लिए फरवरी, 2013 में एक विज्ञापन (सं. बीपीयू-1/2012) के माध्यम से वॉक-इन-इन्टरव्यू करवाया गया, किंतु साक्षात्कार में कम उम्मीदवार आने के कारण कोई नियुक्ति नहीं की जा सकी। संकाय सदस्यों की नियुक्ति के लिए सक्रिय प्रयास जारी है।

स्टाफ की स्थिति (३१ मार्च, २०१३ तक):

१. अनुसंधान संकाय-सदस्य:

क्र.सं.	नाम	पदनाम	कार्यभार ग्रहण की तिथि
1	डॉ. राजेन्द्र सिंह सांगवान	मुख्य कार्यकारी अधिकारी	01.05.2012

२. प्रशासन:

क्र.सं.	नाम	पदनाम	कार्यभार ग्रहण की तिथि
1	श्री वीरेन्द्र के. बेनर्जी	प्रशासनिक अधिकारी	21.02.2013
2	श्री नरेन्द्र चौहान	प्रबंध सहायक	20.03.2013

३. तकनीकी एवं अभियांत्रिकी स्टाफ:

क्र.सं.	नाम	पदनाम	कार्यभार ग्रहण की तिथि
1	श्री आर. एस. विरदी	युनिट इंजीनियर	15.01.2013

During the year, BPU made three advertisements for recruitment of research faculty, administrative staff and technical support and services staff. The first advertisement made in May 2012 (Advt. No. BPU-1/2012) resulted in the recruitment and joining of a Unit Engineer on deputation basis. The subsequent recruitment advertisement issued in October 2012 (Advt. No. BPU-2/2012) resulted in the recruitment of Administrative Officer on deputation basis, Stores and Purchase Officer, Management Assistant and one

Scientist C. The administrative staff has joined whilst joining of the faculty is awaited. The selectee on the position of Stores and Purchase Officer did not join.

In February 2013, an advertisement (Advt. No. BPU-3/2013 HR) for engagement of Project Scientist and Research Associates on contractual basis was made for conducting walk-in interviews. However, no recruitment could be made due to poor response. Further, active efforts are on to recruit faculty and other staff.

Staff Status (as on March 31, 2013)

Research Faculty

Sr. No.	Name	Designation	Date of Joining
1	Dr. Rajender Singh Sangwan	Chief Executive Officer	01-05-2012

Administration

Sr. No.	Name	Designation	Date of Joining
1	Sh. Virendra K. Banerjee	Administrative Officer	21-02-2013
2	Sh. Narendra Chauhan	Management Assistant	20-03-2013

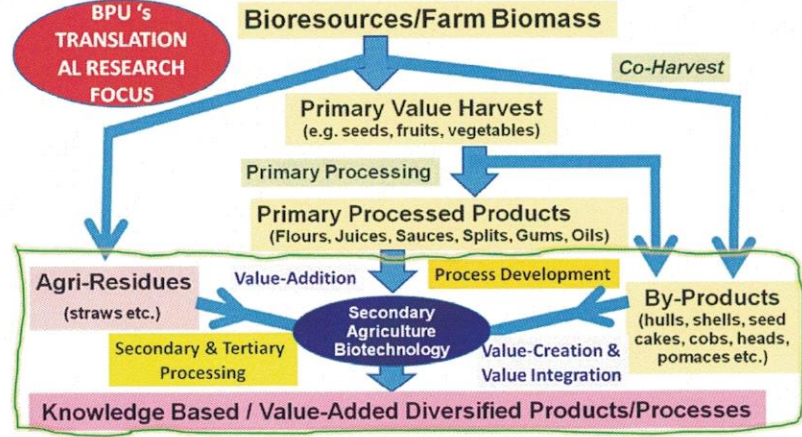
Technical and Engineering Support

Sr. No.	Name	Designation	Date of Joining
1	Sh. R.S. Virdi	Unit Engineer	15-01-2013

अनुसंधान एवं विकास
Research and Development

अनुसंधान एवं विकास कार्यक्रम योजना

बीपीयू ने अपनी अनुसंधान एवं विकास कार्यों की योजना गौण कृषि के महत्त्व को बढ़ावा देने के लिए खा एवं अखाद्य उत्पादों दोनों के उत्पादन से संबंधित प्रक्रियाओं को केन्द्र में रखते हुए कृषि खाद्य संबंधी जैव संसनों को ध्यान में रखते हुए तैयार की। कार्य योजना का संक्षिप्त मानचित्रण निम्नानुसार है :



बीपीयू में आर एंड डी कार्यक्रमों का विकास

उपरोक्तानुसार, अनुसंधान कार्य प्रारंभ करने के लिए बीपीयू ने निम्नानुसार प्रारंभिक अनुसंधान एवं नवाचार क्षेत्रों में कार्य करने की योजना तैयार की :

52

क्षेत्र 1 : कृषि/प्रसंस्करण अपशिष्ट से बहु-उपयोगी-पॉलिशैकैराइड्स (एमयूपी)

: प्राथमिक, द्वितीय व तृतीय कृषि-अवशेषों से पैक्टिन्स

: सैल्युलोस एवं हैमि-सैल्युलोस : फसल पुआल एवं भूसी

क्षेत्र 2 : बीज खाद्यों जैसे उप-उत्पादों के प्रसंस्करण से पोषक/विशिष्ट प्रोटीन

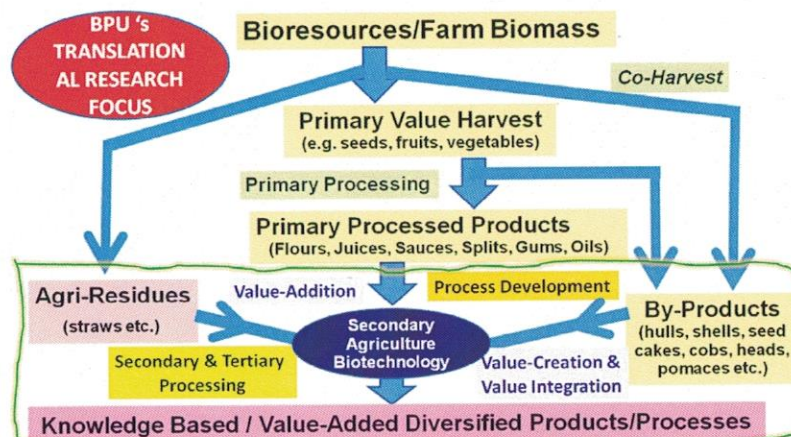
क्षेत्र 3 : उच्च मान के न्यून मात्रा फीटोकैमिकल्स, न्युट्रिशनल एवं न्युट्रास्युटिकल एडिटिव्स

: केरोटनॉइड्स जैसे फाइटोकैमिकल्स के लिए वैकल्पिक/उन्नत प्रक्रियाएं

: जैविक एवं कीमो-एंजाइमेटिक रूपांतरण प्रक्रियाएं

: फोर्टिफाइड उत्पाद

BPU developed a R&D landscape of its activities considering agri-food related bioresources at the centre stage covering processes relevant to production of both edible and non-edible products for the promotion of significance of secondary agriculture. A brief schematic diagram of the landscape is represented below:



Evolving R&D Programs at BPU

To evolve research activities in line with the above landscape, BPU shortlisted following areas of activities for pursuance as its early research and innovation.

Area I: MULTI-USE-POLYSACCHARIDES (MUP) FROM AGRI/PROCESSING WASTES:

- Pectins from Primary, Secondary and Tertiary Agri-Residues:
- Cellulose & Hemi-cellulose: Crop straws and Husks

Area II: NUTRITIONAL/SPECIALTY PROTEINS FROM PROCESSING BY-PRODUCTS LIKE SEED MEALS

Area III: HIGH VALUE LOW VOLUME PHYTOCHEMICALS, NUTRITIONAL & NUTRACEUTICAL ADDITIVES

- Alternate/improved processes for phytochemicals like carotenoids
- Biological and Chemo-Enzymatic Transformation Processes
- Fortified Products

वित्तीय जानकारी
Financial Information

वित्तिय

वर्ष 2012-13 का वार्षिक वित्तिय लेखा-जोखा:

- संस्थान का वित्तीय स्रोत जैवप्रौद्योगिकी विभाग (भारत सरकार) द्वारा आवर्ती एवं गैर-आवर्ती घटकों के अंतर्गत उपलब्ध करवाया गया अनुदान है।
- संस्थान को वर्ष 2012-13 में रूपये 225.00 लाख का अनुदान प्राप्त हुआ।
- संस्थान द्वारा वर्ष 2012-13 का वार्षिक लेखा भारत सरकार द्वारा केन्द्रीय स्वायत्तशासी निकायों के लिए निर्धारित मानक प्ररूप में लेखा उपचय प्रणाली आधार पर तैयार किया गया है।
- मै. नरेन्द्र कुमार एवं कं. (चार्टेड अकाउंटेंट भटिंडा, वैधानिक लेखापरीक्षक (सी.ए.जी.) द्वारा चयन-सूचीबद्ध लेखापरीक्षक ने संस्थान का लेखा परीक्षा किया है।

वित्तीय स्थिति: (रुपये में)

क्र.सं.	विवरण	31.03.2012 तक	31.03.2013 तक
(क)	पूँजीगत निधि एवं दायित्व		
1.	पूँजीगत निधि	45,20,447	1,38,32,659
2.	वर्तमान दायित्व एवं प्रावधान	1,74,177	4,12,013
	योग	46,94,624	1,42,44,672
(ख)	परिसंपत्तियाँ		
1.	स्थिर परिसंपत्तियाँ		12,31,610
2.	पूँजीगत जारी कार्य		
3.	वर्तमान परिसंपत्तियाँ, ऋण एवं अग्रिम इत्यादि	46,94,624	1,30,13,062
	योग	46,94,624	1,42,44,672
(ग)	संस्थान की प्राप्तियाँ		
1.	डीबीटी से अनुदान	50,00,000	2,25,00,000
2.	आंतरिक प्राप्तियाँ/आय		3,99,524
	योग	50,00,000	2,28,99,524
(घ)	उपयोग		
1.	उपस्कर		
2.	फर्नीचर एवं अन्य स्थिर संपत्तियाँ		14,32,559
3.	जनषक्ति		22,69,314
4.	अनुसंधान एवं विकास खर्च		1,150
5.	प्रशासनिक खर्च	4,79,553	1,11,15,899
(ङ)	भूगतान/बकाया	1,74,177	4,12,013
(च)	अग्रिम/प्राप्तियाँ		6,99,907
(छ)	एलसी के लिए मार्जिन राशि		
(ज)	अंत: बैंक शेष (मार्जिन राशि को छोड़कर)	46,94,624	1,23,13,155

Annual Accounts for the year 2012-13

- The financial resource of the institute is the core grant provided by the Department of Biotechnology (Govt. of India) under non-recurring and recurring components.
- The institute received the core grant of Rs.225.00 lac in the year 2012-13.
- Annual accounts for the year 2012-13 have been prepared by the institute on the basis of accrual system of accounting using standard format of accounts prescribed by the Government of India for Central Autonomous Bodies.
- M/s Narender Kumar Garg & co., (chartered Accountant) Bhatinda (Pb), The Statutory Auditor (CAG empaneled) of the institute have audited the accounts.

Financial Position

(Figures in Rupees)

Sr.No	Particulars	As on 2011-2012	As on 31-3-2013
A	Capital Fund and Liabilities		
1	Capital Fund	45,20,447	1,38,32,659
2	Current Liability and Provisions	1,74,177	4,12,013
	Total	46,94,624	1,42,44,672
B	Assets		
1	Fixed Assets		12,31,610
2	Capital Work in Progress		
3	Current Assets loans and Advances	46,94,624	1,30,13,082
	Total	46,94,624	1,42,44,672
C	Receipt of the Institute		
1	Grant for DBT	50,00,000	2,25,00,000
2	Internal Receipt/Income		3,99,524
	Total	50,00,000	2,28,99,524
D	Utilization		
1	Equipment		
2	Furniture and other Fixed Assets		14,32,559
3	Manpower		22,69,314
4	R & D Expenses		1,150
5	Administrative Expenditure	4,79,553	1,11,15,899
E.	Paybles/Outstandings	1,74,177	4,12,013
F	Advances/Receivables		6,99,907
G	Margin Money for LCs		
H.	Closing Bank Balance (Excluding Margin Money)	46,94,624	1,23,13,155

Narinder K Garg & Co,
Chartered Accountants,
098148-36951 (M), 0164-2237751(o)



CA. Narinder Kumar Garg
B.Com, DEM, FCA, DISA (icai)
e-mail id: gargnarin14@gmail.com

Office: # 257, Veer Colony, Amrik Singh Road, Bhatinda (PB) 151005

Auditor's Report

1. I/We have examined the Balance Sheet as at 31st March 2013 and the Income & Expenditure account and the Receipt & Payment Account for the year ended on that date, attached herewith of BIO- PROCESSING UNIT (CAB), # C-127, Industrial Area, Phase-7, SAS Nagar, Mohali (PB), which are in agreement with the books of account maintained at the head office at before stated.
2. I/We have obtained all the information and explanation, which to the best of my knowledge and belief were necessary for the purposes of the audit. In my opinion proper books of account have been kept by the head office and braches of the institute so far as appears from my examination of the books. Subject to the comments given below: in notes on a/cs
3. In my opinion and to the best of my information and according to the explanations given to me, the said accounts read with notes thereon, if any, give a true and fair view: -
 - (i) In the case of the Balance Sheet of the State of affairs of the institution as at 31st March 2013 &
 - (ii) In the case of the Income & Expenditure Account of the Income/ Loss of the institution for the year ended on that date.
4. The financial statements are annexed herewith

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Place: Bhatinda.
Dated: 22/08/2013

For: Narinder K Garg & Co,
Chartered Accountants


(CA. Narinder Kumar Garg)
Proprietor
B.Com, DEM, FCA, DISA (icai)

**Home is the temple where each member is moving temple, nurtured & nourished*- Sai Baba*

Form of Financial Statements (Non Profit Organization)

BIO PROCESSING UNIT

C-127 INDUSTRIAL AREA PHASE- 7 S.A.S. NAGAR, MOHALI

BALANCE SHEET AS ON 31ST MARCH 2013 (Amount in Rs.)

CORPUS/ CAPITAL FUND AND LIABILITIES	Schedule	Current Year	Previous Year
Corpus/Capital Fund	1	1,38,32,659.00	45,20,447.00
Reserves and Surplus	2	-	-
Earmarked / Endowment Funds	3	-	-
Secured Loans and Borrowings	4	-	-
Unsecured Loans and Borrowings	5	-	-
Deferred Credit Liabilities	6	-	-
Current Liabilities and Provisions	7	4,12,013.00	1,74,177.00
TOTAL		1,42,44,672.00	46,94,624.00
ASSETS	Schedule	Current Year	Previous Year
Fixed Assets	8	12,31,610.00	-
Investments- from Earmarked/Endowments funds	9	-	-
Investments - Others	10	-	-
Current Assets, Loans & Advances etc.	11	1,30,13,062.00	46,94,624.00
TOTAL		1,42,44,672.00	46,94,624.00
Significant Accounting Policies	23		
Contingent Liabilities and notes on accounts	24		

Suneet Verma
(SUNEET VERMA) 17-3-13
MANAGER FINANCE

Dr. R. S. Sangwan
(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

Narinder K. Garg
(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO.
STATUTORY AUDITORS



Form of Financial Statements (Non Profit Organization)

BIO PROCESSING UNIT

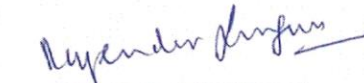
C-127 INDUSTRIAL AREA PHASE- 7 S.A.S. NAGAR, MOHALI


**INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31ST MARCH 2013** (Amount in Rs.)

INCOME	Schedule	Current Year	Previous Year
Grants in aid / subsidies	12	-	-
Fees / Subscriptions	13	-	-
Income from Investments (Income on Investments from earmarked/endowment funds transferred to funds)	14	-	-
Income from Royalty, Publication etc.	15	-	-
Interest Funded	16	3,97,624.00	-
Other Income	17	1,900.00	-
Increase/decrease in stock of finished goods & work in progress	18	-	-
TOTAL (A)	-	3,99,524.00	-
EXPENDITURE	Schedule	Current Year	Previous Year
Establishment Expenses	19	22,69,314.00	-
Administrative Expenses	20	1,11,15,899.00	4,79,553.00
Research & Development Expenditure (Incl, Grants, Subsidies etc)	21	1,150.00	-
Interest	22	-	-
Depreciation	8	2,00,949.00	-
TOTAL (B)		1,35,87,312.00	4,79,553
Balance being surplus/deficit carried to Capital Fund (A-B)		-1,31,87,788.00	-4,79,553.00
Significant Accounting Policies	23	-	-
Contingent liabilities and notes on accounts	24	-	-

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(SUNEET VERMA)¹⁷⁻⁷⁻¹³
MANAGER FINANCE


(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO
STATUTORY AUDITORS

Form of Financial Statements for the Central Autonomous Bodies (Non-Profit Organizations and Similar Institutions)

BIO PROCESSING UNIT

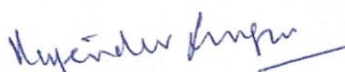
C-127 INDUSTRIAL AREA PHASE-2, S.A.S. NAGAR, MOHALI


RECEIPTS AND PAYMENTS FOR THE PERIOD/YEAR ENDED ON 31.03.2013

(Amounts in Rs.)

RECEIPT	Current Year	Previous Year	PAYMENT	Current Year	Previous Year
I. Opening Balance		-	I. Expenditure		-
a) Cash in Hand			(a) Establishment Expenses		-
b) Bank Balances		-	(i) Manpower-Permanent Strength	19,01,168.00	
i) In current accounts		-	(ii) Manpower-Contractual Strength	90,000.00	
ii) In deposit Accounts			(b) Administrative Expenses		
iii) In Savings Accounts	46,94,624.00	-	(i) Chemicals & Consumables	1,150.00	
II. Grants Received			(ii) Travelling & conveyance expenses	6,22,036.00	16,209.00
a) Grant from DBT			(iii) Postage, Telephone & communication charges	39,864.00	
(i) Capital Grant	1,00,00,000.00		(iv) Office and Admn Expenses	1,02,324.00	11,393.00
(ii) Revenue Grant	1,25,00,000.00	50,00,000.00	(v) Advertisement & Publicity	4,83,428.00	2,77,774.00
III. Income on Investments from	-	-	(vi) Bank Charges	453.00	
a) Earmarked/Endow. Funds	-	-	(vii) Building Renovation	87,98,000.00	
b) Own Funds	-	-	(viii) Boarding & Lodging Expenditure	1,410.00	
IV. Interest Received			(ix) Handling & carriage Fees	400.00	
a) On Bank Deposits	3,56,658.00	-	(x) Printing & stationery	80,558.00	
b) Loans and Advances etc	-	-	(xi) Registration Exp	4,029.00	
V. Other Incomes			(xii) Manpower - Outsourcing	1,85,018.00	
(a) Application Fees	400.00	-	(xiii) Honorarium to Experts/Members of	6,64,512.00	
(b) Tender Fees	1,500.00	-	II. Payments made against funds for various projects	-	-
			III. Investments and deposits made	-	-
			IV. Expenditure on Fixed Assets & Capital Work-in-Progress)		
			(a) Purchase of Fixed Assets		
			(i) Computers & Books	3,81,594.00	-
			(ii) Furniture & Fixture	10,11,465.00	-
			(iii) Office Equipment	39,500.00	-
			(b) Expenditure on Capital Work-in-progress		
			V. Refund of surplus money/Loans	-	-
			VI. Finance Charges (Interest)	-	-
			VII. Other Payments		
			(a) Expenses Payable	1,74,177.00	-
			(b) Loans and Advances		-
			(i) Advance to M/s Maruti Suzuki India Ltd.	6,71,617.00	-
			VIII. Closing Balance		
			a) Cash in Hand		
			b) Bank Balances		
			i) In Current Accounts		
			ii) In Deposit Accounts	1,11,32,572.00	
			iii) In Savings Accounts	11,67,907.00	46,94,624.00
Grand Total	2,75,53,182.00	50,00,000.00	Grand Total	2,75,53,182.00	50,00,000.00


(SUNEET VERMA)
MANAGER FINANCE


(DR) R. S. SANGWAN
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K. GARG & CO.
STATUTORY AUDITORS

SCHEDULE FORMING PART OF BALANCE SHEET AS AT 31.03.2013

SCHEDULE - 1

CORPUS/CAPITAL FUND (Amount in Rs.)

Particulars	Current Year	Previous Year
Balance as at the beginning of the year	4,520,447.00	
Add: Contribution towards corpus/capital fund	2,25,00,000.00	50,00,000.00
Less/(Deduct) : balance of net expenses transferred from the income & expenditure a/c	1,31,87,788.00	4,79,553.00
Balance as at the year end	1,38,32,659.00	45,20,447.00

SCHEDULE - 2

RESERVES AND SURPLUS (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Capital Reserves;	-	-
2. Revaluation Reserve	-	-
3. Special Reserve	-	-
4. General Reserve	-	-
TOTAL	-	-

SCHEDULE - 3

EARMARKED/ENDOWMENT FUNDS (Amount in Rs.)

Particulars	Current Year	Previous Year
FUND WISE BREAK UP		
A) Opening balance of the funds	-	-
B) Additions to the funds	-	-
Total (A+B)	-	-
C) Utilisation/expenditure towards objective of funds		
Total (C)	-	-
NET BALANCE AT THE YEAR END (A+B-C)	-	-

SCHEDULE - 4

SECURED LOANS & BORROWINGS (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Central Government	-	-
2. State Government (specify)	-	-
3. Financial Institutions	-	-
4. Banks	-	-
5. Other Institutions & agencies	-	-
6. Debentures & bonds	-	-
7. Others (specify)	-	-
TOTAL	-	-

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Suneet Verma
(SUNEET VERMA)¹⁷⁻⁷⁻¹³
MANAGER FINANCE

Narinder Kumar
(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

Narinder Kumar
(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO.
STATUTORY AUDITORS

Schedule - 5**UNSECURED LOANS & BORROWINGS** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Central Government	-	-
2. State Government (specify)	-	-
3. Financial Institutions	-	-
4. Banks	-	-
5. Other Institutions & agencies	-	-
6. Debentures & bonds	-	-
7. Others (specify)	-	-
TOTAL	-	-

SCHEDULE - 6**DEFERRED CREDIT LIABILITIES** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Acceptances secured by hypothecation of capital equipment		-
2. Others		-
Total		-


SCHEDULE - 7**CURRENT LIABILITIES & PROVISIONS** (Amount in Rs.)

Particulars	Current Year	Previous Year
A) CURRENT LIABILITIES	-	-
1. Sundry Creditors	-	-
a) For Goods/Services	-	-
1) National Agri-food Biotechnology Institute	-	1,74,177.00
b) For Securities	-	-
c) Earnest Money Deposit	-	-
2. Interest accrued but not due on;	-	-
a) Secured Loans/Borrowings	-	-
b) Unsecured Loans/Borrowings	-	-
3. Statutory Liabilities	-	-
a) TDS Payable	30,466.00	-
4. Other Current Liabilities	-	-
a) Manpower (Salary) Payable	2,49,646.00	-
b) Other Expenses Payable	1,31,901.00	-
TOTAL (A)	4,12,013.00	1,74,177.00
B) PROVISIONS	-	-
1. Gratuity	-	-
2. Superannuation/Pension	-	-
3. Leave Encashment	-	-
TOTAL (B)	-	-
TOTAL (A+B)	4,12,013.00	1,74,177.00

Suneet Verma
(SUNEET VERMA)¹⁷⁻⁷⁻¹³
MANAGER FINANCE

Narinder K. Garg
(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

Narinder K. Garg
(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO
STATUTORY AUDITORS



SCHEDULE-8
FIXED ASSETS

Sl. No.	Description	Depreciation Rate	GROSS BLOCK				DEPRECIATION			NET BLOCK	
			Cost/Valuation as at beginning of the year	Additions during the year	Additions during the year	Deduction during the year	Cost/Valuation at the year end	As at the beginning of the year	Depreciation during the year	Total at the year end	As at the Current Year End
			1.04.12	UPTO 30.09.12	AFTER 30.09.12	2012-13	2012-13	2012-13	31.03.13	31.03.13	31.03.12
A	FIXED ASSETS										
I	LAND										
	a) Free Hold	0%	-	-	-	-	-	-	-	-	-
	b) Lease Hold	0%	-	-	-	-	-	-	-	-	-
II	BUILDINGS										
	a) On Freehold Land	10%	-	-	-	-	-	-	-	-	-
	b) On Leasehold Land	10%	-	-	-	-	-	-	-	-	-
	c) Ownership Premises	10%	-	-	-	-	-	-	-	-	-
	d) Other Superstructures	10%	-	-	-	-	-	-	-	-	-
III	PLANT, MACHINERY & EQUIPMENT										
	Equipments	15%	-	-	-	-	-	-	-	-	-
IV	Vehicles										
	Vehicles	15%	-	-	-	-	-	-	-	-	-
V	Furniture & Fixtures										
	Furniture & Fixtures	10%	-	-	10,11,465.00	-	-	-	10,11,465.00	50,573.00	9,60,892.00
VI	Computers/Peripherals										
	Computers/Peripherals	60%	-	1,09,744.00	2,71,850.00	-	-	-	3,81,594.00	1,47,401.00	2,34,193.00
VII	Library Books										
	Library Books	100%	-	-	-	-	-	-	-	-	-
VIII	Office Equipments										
	Office Equipments	10%	-	20,000.00	19,500.00	-	-	-	39,500.00	2,975.00	36,525.00
	TOTAL OF CURRENT YEAR (A)		-	1,29,744.00	13,02,815.00	-	-	-	14,32,559.00	2,00,949.00	12,31,610.00
XI	PREVIOUS YEAR										
	a) Expenditure on Assets/Fixed Assets		-	-	-	-	-	-	-	-	-
	b) Expenditure on Plan Activities		-	-	-	-	-	-	-	-	-
	TOTAL OF PREVIOUS YEAR		-	-	-	-	-	-	-	-	-
XII	CAPITAL WORK-IN-PROGRESS										
	a) Main Campus At Sec 81		-	-	-	-	-	-	-	-	-
	d) Equipment		-	-	-	-	-	-	-	-	-
	TOTAL OF CURRENT YEAR (CWIP) (B)		-	-	-	-	-	-	-	-	-
	TOTAL (A+B)		-	1,29,744.00	13,02,815.00	-	-	-	14,32,559.00	2,00,949.00	12,31,610.00

(SUNEET VERMA)
MANAGER FINCE

(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

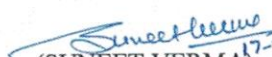
(CA GARG NARINDER KUMAR)
PROPRIETOR *
M/s NARINDER K GARG & CO.
STATUTORY AUDITORS


SCHEDULE - 9**INVESTMENT FROM EARMARKED/ENDOWMENT FUNDS** (Amount in Rs.)


Particulars	Current Year	Previous Year
1. In Government Securities	-	-
2. Other approved securities	-	-
3. Shares	-	-
4. Debentures & Bonds	-	-
5. Subsidiaries & Joint Ventures	-	-
6. Others (to be specified)	-	-
TOTAL	-	-


SCHEDULE - 10**INVESTMENT OTHERS** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. In Government Securities	-	-
2. Other approved securities	-	-
3. Shares	-	-
4. Debentures & Bonds	-	-
5. Subsidiaries & Joint Ventures	-	-
6. Others (to be specified)	-	-
TOTAL	-	-


(SUNEET VERMA)
MANAGER FINANCE


(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO.
STATUTORY AUDITORS



SCHEDULE - 11

CURRENT ASSETS, LOANS & ADVANCES (Amount in Rs.)

Particulars	Current Year	Previous Year
A) CURRENT ASSETS	-	-
1. Inventories	-	-
a) Stores & Spares	-	-
b) Loose Tools	-	-
c) Stock-in-trade	-	-
Finished Goods	-	-
Work-in-progress	-	-
Raw Material	-	-
2. Sundry Debtors	-	-
3. Cash balances in hand	-	-
4. Bank Balances	-	-
a) With Scheduled Banks;	-	-
- on current accounts	-	-
- on fixed deposit accounts	1,11,45,248.00	-
- on saving accounts	-	-
(i) State Bank of India A/c	11,67,907.00	46,94,624.00
TOTAL (A)	1,23,13,155.00	46,94,624.00
B) LOANS, ADVANCES AND OTHER ASSETS	-	-
1. Loans	-	-
2. Advances and other amounts recoverable in cash in kind or for value to be received;	-	-
a) On Capital Account	-	-
b) Advances	-	-
c) Recoupable form Govt. Agencies	-	-
d) Advance to Employees for Official Purpose	-	-
e) Others (specify)	-	-
(i) M/s Maruti Suzuki India Pvt. Ltd. (For purchase of staff car)"	6,71,617.00	-
(ii) TDS Receivable	28,290.00	-
3. Income accrued:	-	-
a) on investment from earmarked/endowment fund	-	-
b) on investments	-	-
c) on loans & advances	-	-
d) others (include income due unrealised-Rs.)	-	-
4. Claims Receivable	-	-
TOTAL (B)	6,99,907.00	-
TOTAL (A+B)	1,30,13,062.00	46,94,624.00

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Suneet Verma
(SUNEET VERMA)
MANAGER FINANCE

Narinder K. Sangwan
(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

Narinder K. Garg & Co.
(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO
STATUTORY AUDITORS

SCHEDULE - 12**GRANTS/SUBSIDIES** (Amount in Rs.)

Particular	Current Year	Previous Year
(Irrevocable Grants & subsidies received)		
1. Central Government	-	-
2. State Government	-	-
3. Government Agencies	-	-
4. Institutional/ welfare bodies	-	-
5. International Organizations	-	-
6. Others (to be specified)	-	-
TOTAL	-	-

SCHEDULE - 13**FEES/SUBSCRIPTIONS** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Entrance Fees	-	-
2. Annual Fees / Subscriptions	-	-
3. Seminar / program fees	-	-
4. Consultancy fees	-	-
5. Others	-	-
TOTAL	-	-


SCHEDULE - 14**INCOME FROM INVESTMENTS** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Interest	-	-
a) On Govt. Securities		-
b) Other Bonds/Debentures		-
2. Dividends:	-	-
a) On shares		-
b) On Mutual Fund securities		-
3. Rents	-	-
4. Others (specify)	-	-
TOTAL	-	-

Suneet Verma
(SUNEET VERMA)
MANAGER FINANCE

Dr. R. S. Sangwan
(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

Narinder K. Garg
(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO.
STATUTORY AUDITORS



SCHEDULE - 15

INCOME FROM ROYALTY/PUBLICATIONS ETC. (Amount in Rs.)


Particulars	Current Year	Previous Year
1. Income from Royalty	-	-
2. Income from Publications	-	-
3. Others (specify)	-	-
TOTAL	-	-

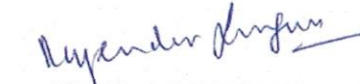
SCHEDULE - 16


INTEREST EARNED (Amount in Rs.)


Particulars	Current Year	Previous Year
1. On Term Deposits		
a) With Schedule Banks		
(i) Actual Received	2,65,425.00	
(ii) Accrued as on 31st March	12,676.00	
b) With Non-Schedule Banks:		
2. On Savings Accounts		
a) With Schedule Banks	1,19,523.00	
b) With Non-Schedule Banks:		
c) Post Office Savings Account		
d) Others		
3. On Loans		
a) Employees/staff		
b) Interest on Mobilisation Advance		
4. Interest on Debtors & other Receivables		
TOTAL	3,97,624.00	

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(SUNEET VERMA)¹⁷⁻⁷⁻¹³
MANAGER FINANCE


(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO
STATUTORY AUDITORS



SCHEDULE - 17**OTHER INCOME** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Profit on sale/disposal of assets		
a) Owned Assets		
b) Assets acquired out of grants, or received free of cost		
2. Export Incentives realised		
3. Fee for Miscellaneous Services		
4. Miscellaneous Income		
a) Application Fees	400.00	
b) Tender Fees	1,500.00	
c) Guest House Rent		
d) Farm Income (sale of surplus crop.)		
e) RTI Fee		
f) LD Charges		
g) Car Charges for Pvt Use		
h) Licence Fee		
i) Others (specify)		
TOTAL	1,900.00	


SCHEDULE - 18**INCREASE/(DECREASE) IN STOCK OF FINISHED GOODS & WORK IN PROGRESS** (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Closing Stock	-	-
a) Finished Goods	-	-
b) Work-in-progress	-	-
2. Less: Opening Stock	-	-
a) Finished Goods	-	-
b) Work-in-progress	-	-
NET INCREASE/(DECREASE) (A-B)	-	-

Suneet Verma
(SUNEET VERMA)
MANAGER FINANCE

Dr. R. S. Sangwan
(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER

Narinder K. Garg
(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO.
STATUTORY AUDITORS



SCHEDULE - 19

ESTABLISHMENT EXPENSES (Amount in Rs.)

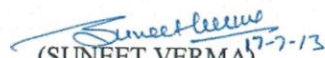
Particulars	Current Year	Previous Year
1. Manpower salaries, Wages and Allowances	20,38,498.00	-
2. Bonus	-	-
3. Leave Travel Concession	1,58,522.00	-
4. Medical Reimbursement	-	-
5. Tuition Fee Reimbursement	-	-
6. Staff Welfare Expenses	-	-
7. Employees' Retirement and Terminal Benefits	-	-
8. Leave Salary and Pension Contribution	72,294.00	-
TOTAL	22,69,314.00	-


SCHEDULE - 20


OTHER ADMINISTRATIVE EXPENSES ETC. (Amount in Rs.)

Particulars	Current Year	Previous Year
1. Traveling and conveyance expenses	6,57,159.00	16,209.00
2. Postage, telephone & communication charges	42,547.00	-
3. Office & Admin. Expenses	1,02,471.00	11,393.00
4. Advt. & Publicity	5,78,372.00	4,51,951.00
5. Bank Charges	453.00	-
6. Building Renovation	87,98,000.00	-
7. Boarding & Lodging Expenses	1,410.00	-
8. Handling & Carriage Fees	400.00	-
9. Printing & Stationary	80,558.00	-
10. Registration Exp	4,029.00	-
11. Fees & Honorarium	6,64,512.00	-
12. Others (specify)-Outsourcing	1,85,988.00	-
TOTAL	1,11,15,899.00	4,79,553.00

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(SUNEET VERMA)
MANAGER FINANCE


(DR. R. S. SANGWAN)
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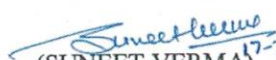
SCHEDULE - 21**RESEARCH & DEVELOPMENT EXPENDITURE (INCL. GRANTS AND SUBSIDIES ETC.)**

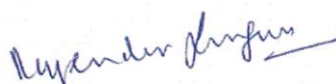
(Amount in Rs.)

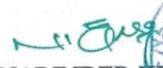
Particulars	Current Year	Previous Year
1. Chemical & Consumables	1,150.00	-
2. Fellowships	-	-
3. Computer Software & Accessories	-	-
4. Research Work Expenses	-	-
5. Field Expenses (Ploughing, RM & Other Job Work)	-	-
TOTAL	1,150.00	

SCHEDULE - 22**INTEREST (Amount in Rs.)**

Particulars	Current Year	Previous Year
1. On Fixed Loans	-	-
2. On Other Loans	-	-
3. Others (specify)	-	-
Total	-	-


(SUNEET VERMA)¹⁷⁻⁷⁻¹³
MANAGER FINANCE


(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
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STATUTORY AUDITORS



**FORM OF FINANCIAL STATEMENTS
BIO PROCESSING UNIT
C-127 INDUSTRIAL AREA PHASE- 7 S.A.S. NAGAR, MOHALI**

SCHEDULE 23

SIGNIFICANT ACCOUNTING POLICIES

a. ACCOUNTING CONVENTION

The Financial Statements are prepared on the basis of historical cost convention, unless otherwise stated and generally on the Accrual method of accounting as per the Common Format of Accounting for all Central Autonomous Bodies.

b. INVENTORY VALUATION

There is no inventory item.

c. INVESTMENTS

There are no investments. No brokerage or other expenses have been incurred in making such investments.

d. EXCISE DUTY

Being a Research Institution, neither the excise duty is applicable to Bio Processing Unit nor there is any item of production which attracts excise duty.

e. FIXED ASSETS

Fixed assets are valued at cost of acquisition inclusive of inward freight, duties and taxes and incidental and direct expenses related to acquisition.

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f. DEPRECIATION

Depreciation on fixed assets has been charged to appropriate account as per the rate prescribed in the Income Tax Act, on written down value method.

g. MISCELLANEOUS EXPENDITURE

There is no deferred revenue expenditure during 2012-13.

h. ACCOUNTING FOR SALES

Being an Institution there is no sales during the year under consideration.

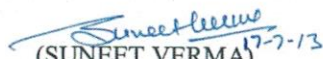
i. GOVERNMENT GRANTS/SUBSIDIES

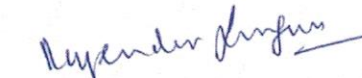
As the Institute is funded by the Department of Bio Technology and the grants are treated as irrevocable, the same has been accounted during the period 2012-13. However, there was no such part of the grant to be received which could have been accounted on due basis in 2012-13.


j. Expenses claimed by the recipient up to 30th April 2013 have been shown under expenses payable and the same has been paid on or before 30th April, 2013. Any expenditure which has not been claimed or for which bill has not been received pertaining to any expenditure up to 31st March, 2013, the same will be accounted for in the year of claim.


k. RETIREMENT BENEFITS

The Institute is covered under New Pension Scheme of Government of India and has applied for registration with PFRDA. After the registration, benefits will be applicable to employees as the case may be.


(SUNEET VERMA)¹⁷⁻⁷⁻¹³
MANAGER FINANCE


(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO
STATUTORY AUDITORS



**FORM OF FINANCIAL STATEMENTS
BIO PROCESSING UNIT
C-127 INDUSTRIAL AREA PHASE- 7 S.A.S. NAGAR, MOHALI**

SCHEDULE 24

NOTES ON ACCOUNTS

The financial statement of accounts is prepared in three parts (i) Receipt & Payment Account, (ii) Income & Expenditure Account and (iii) The Balance Sheet

1. Receipt and Payment Accounts

The Receipt & Payment Account carries the figures of actual receipts & actual payments of the Institute during the financial year 2012-13. It is virtually a copy of Cash Book/Institute's accounts. The total receipt as shown in Receipt & Payment Account comes to Rs. 2,28,58,558/- which include Rs. 2,25,00,000/- received as grants from DBT and RS. 3,58,558/- from other receipts including Interest Income.

2. The Income and Expenditure Account

The Income and Expenditure account is prepared on actual/accrual basis. The total income is Rs. 3,99,524/-. The Expenditure under heads (as shown) are taken as the expenditure which includes recurring expenditures as well as non-recurring expenditures. Total expenditure (before depreciation) comes to Rs. 1,35,07,312/- which includes depreciation amounting to Rs. 2,00,949/- which has been provided during the year.

3. The Balance Sheet

In the Balance Sheet, the assets acquired and in-complete are taken as assets, while the recurring expenditures & no-recurring expenditures (less the income) have been taken as liabilities and has been shown on the Liability side (under the head Reserves and Surplus) in the Balance Sheet.

4. Fixed Assets

Fixed assets are stated at cost of acquisition less accumulated depreciation theorem.

5. Depreciation

Depreciation for the year 2012-13 has been provided and debited to the Income & Expenditure Account.

6. Current Assets, Loans and Advances

In the opinion of the management the current assets, loans & advances of the institute have a realizable value in the ordinary course at least to the extent shown in the accounts and the provisions of liabilities are adequate

7. Land

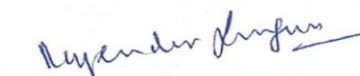
The Government of Punjab has provided approx 15 acres of land at Mohali to the Institute, free of cost, on ownership basis.

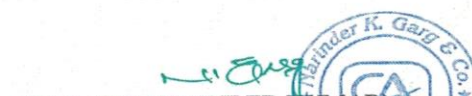
8. Interim Facility

The Institute is working from the premises of National Agri-Food Biotechnology Institute (NABI) which has acquired on rental basis by NABI at C-127, Industrial Area, Phase VIII, SAS Nagar, Mohali and the reimbursement of rent is made to NABI.

9. There are no losses from casualties such as flood and fire.


(SUNEET VERMA)
MANAGER FINANCE


(DR. R. S. SANGWAN)
CHIEF EXECUTIVE OFFICER


(CA GARG NARINDER KUMAR)
PROPRIETOR
M/S NARINDER K GARG & CO. ACCOUNTANTS *
STATUTORY AUDITORS

चित्र दीर्घा
Photo Gallery

स्वतंत्रता दिवस समारोह का आयोजन Celebration of Independence Day

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बीपीयू में स्वतंत्रता दिवस (2012) पर ध्वजारोहण एवं सलामी।

Flag hoisting and salutation of National Flag on Independence

अंतरिम सुविधा में स्वतंत्रता दिवस का आयोजन।
Independence Day celebrations at the Interim Facility.



ज्ञान शहर बैठक में प्रतिभागिता Participation in Knowledge City Institutions Meeting August 21, 2012

डॉ. एम. के. भान, तत्कालीन सचिव, डीबीटी ज्ञान शहर एवं मोहाली बायोक्लस्टर संस्थानों की बैठक की अध्यक्षता करते हुए। साथ में श्री करन अवतार सिंह, सचिव, पंजाब राज्य विज्ञान एवं प्रौद्योगिकी परिषद

Dr. M.K. Bhan, the then Secretary, Department of Biotechnology chaired the Knowledge City and Mohali Biocluster institutions meeting. Sh. Karan Avtar Singh, Secretary, Punjab State Council of Science & Technology also participated in the event.



डॉ. आर. एस. सांगवान, सीईओ, बीपीयू ने तकनीकी सलाहकार समिति (टीएसी) की 21 अगस्त 2012 को नाबी अंतरिम सुविधा हुई बैठक में बीपीयू विज्ञान विभाग पर प्रस्तुतिकरण दिया। बैठक की अध्यक्षता डॉ. एम. के. भान तत्कालीन सचिव, डीबीटी ने

Dr. R.S. Sangwan, CEO, made a presentation on B vision development before interim Technical Advisory Committee (TAC) meeting chaired by Dr. M.K. Bhan then Secretary, Department of Biotechnology on August 21, 2012 at NABI Interim Fa

बीपीयू में गणतंत्र दिवस समारोह Republic Day Celebration at BPU: January 26, 2013



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गणतंत्र दिवस पर
ध्वजारोहण (2013) :
बीपीयू एव नाबी के सदस्य
राष्ट्रीय ध्वज को सलामी
देते हुए।

**Flag Hoisting on
Republic Day
(2013): BPU &
NABI Saluting the
National Flag.**

नाबी-बीपीयू स्टाफ
अपने परिवार के साथ
गणतंत्र दिवस मनाते
हुए।

BPU-NABI Staff,
Celebrating the
Republic Day
alongwith their
Families.



परिशिष्ट
Appendix

Press Information Bureau, Govt. of India

December 05, 2006

Ministry of Science and Technology

MoUs with Canada to Strengthen S&T ties

AGRI-FOOD BIOTECH PARK IN KNOWLEDGE CITY, MOHALI THROUGH PUBLIC-PVT. PARTNERSHIP

India today signed two Memoranda of Understanding (MoUs) with Canada to strengthen Science & Technology relations with each other. The MoUs were signed between the Department of Biotechnology and Department of Agriculture and Agri-Food of Canada (AAFC) and National Research Council, (NRC) Canada in the presence of Union Minister for Science & Technology and Earth Sciences, Shri. Kapil Sibal. Following are details regarding the two MoUs:

MOU WITH AGRICULTURE AND AGRI-FOOD CANADA

The MoU was signed by Mr. Leonard Edwards, Deputy Minister, Agriculture & Agri-food Canada and Dr. M. J. Bhan, Secretary, Department of Biotechnology on behalf of their respective countries. The major objectives are:

- To provide researchers and institutions with opportunities to exchange scientific information and to facilitate the exchange of scientists;
- Foster scientific cooperation and promote cooperative projects mutually beneficial to the two countries including industrial programs

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The identified priorities for cooperation include:

- Agriculture and food processing and storage;
- Bio-pesticides and bio-fertilizers;
- Functional and nutraceutical foods and impact on human nutrition;
- Agricultural biotechnology;
- Biomass utilization;
- Sustainable alternative energy and environmental technologies; and
- Water quality.

AAFC and DBT will hold joint workshops in identified areas to work out details. This will be followed by joint call for proposals for funding in a defined time frame.

The respective organisations/executing agencies will bear the costs of its participation in all collaborative activities. Each activity will be conducted in accordance with the laws, statutes, regulations and policies of the Executing agencies' respective countries.

MOU WITH NATIONAL RESEARCH COUNCIL, CANADA

The MoU was signed by Vice President Dr. Roman Szumski, National Research Council, Canada and Dr. S. Natesh Sr. Adviser, Department of Biotechnology on behalf of their respective countries. The major objectives are to promote research collaboration in the field of biotechnology of mutual interest by encouraging and facilitating close and frequent consultation between DBT and NRC. The identified priorities for initial collaboration between DBT and NRC are:

- Harnessing plants for improving human and animal health, and
- Understanding and exploiting genomics of plants of common interest to the benefit of both the countries. Collaborations in additional areas such as, but not limited to, vaccine design, production and delivery systems and biodevices are being explored.

It has been agreed that, to begin with, a workshop on 'Plants for health' will be organized by NRC Plant Biotechnology Institute, Saskatoon during March 2007. In case there is scope for mutual collaboration in identified sub-areas of this topic, feasibility of funding collaborative projects will be explored.

Each organisation will pay the operating costs of its facilities as well as the salaries, benefits, travel costs etc.

CANADIAN HELP IN SETTING UP OF AGRI-FOOD CLUSTER IN PUNJAB

As part of fulfilling Prime Minister Man Mohan Singh's promise to Punjab, a 'Knowledge City' is being planned at Sector 81, Mohali. Spread over an area of 350 acres, the Knowledge City will comprise the National Institute of Nanotechnology, Indian Institute of Science Education and Research as well as an Agri-food cluster. Department of Biotechnology is involved in planning the agri-food cluster.

The agri-food cluster itself (about 150 acres) will have the National Agri-food Biotechnology Institute (NABI) and a Bioprocessing Unit (BPU) to provide scale-up facilities. Both, NABI and BPU are planned to come up as autonomous institutions under DBT in an Agri-food Biotech Park designed to house start-up companies. The park itself is proposed to be set up through public-private enterprise.

NABI will work on innovative food processes and products keeping in view the current and future markets both within the country and abroad. It will be a centre purely dedicated to translation and in this sense different. It will also be involved in training world class human resource in food science and technology as well as nutritional science. The BPU is designed to link the R&D system with a miniature production facility to serve as an incubator for start-ups. It will not only facilitate the scale-up and process optimization of new technologies developed by NABI or acquired through licensing from other sources within India and abroad but also services, consultancies and support to the start-up companies.

All the institutions in the agri-food cluster (NABI, BPU and Agri-food Biotech Park) will share a common vision and have a common Technical Board and a common CEO. This will be first such cluster in India.

Canadian experts from the following institutions have been involved right from the beginning in this project:

- National Research Council, Canada;
- University of Saskatchewan, Saskatoon;
- POS Pilot Plant Corporation, Saskatoon;
- Ag-west Bio, Saskatoon.

They have not only been providing valuable inputs towards the designing of the cluster proposal based on expertise available in Canada; they are also willing to provide technical support, consultancy, facilitation of industrial interaction and licensing agreements. Several of these experts are likely to be on the Advisory Board of the cluster as well. Canadian institutions are willing to sign a series of MoUs with DBT through which specific bilateral partnerships with NABI, BPU etc. will be possible. In fact, the two MoUs being signed today are reflective of the spirit.

Press Information Bureau, Govt. of India

August 21, 2008

Ministry of Science and Technology

GOVERNMENT APPROVES NABI AND BPU AS AUTONOMOUS INSTITUTIONS OF DEPARTMENT OF BIOTECHNOLOGY

The Union Cabinet today gave its approval for establishment of (a) National Agri-Food Biotechnology Institute (NABI) and (b) Bioprocessing Unit (BPU) in Knowledge City at Mohali, Punjab, as autonomous institutions of the Department of Biotechnology, Ministry of Science & Technology, Government of India with the total estimated cost of Rs. 380 crores for 5 years w.e.f. 2008-2009 to 2012-13. Following are the highlights:

- **NABI** represents 3 institutes in one: Agri-technology, food technology and nutrition technology. Thus integrates 3 disciplines under its roof.
- **BPU** is designed to link R&D system with production facility to serve as an incubator for start-up agri-food companies.
- There will be an **Agri-food Park** within the cluster to be operated in the Public Private Partnership, PPP mode.
- This kind of integration of R&D and production and enterprise is being planned **for the first time** in the country.
- The cluster has been designed with the help of Canadian experts from the Saskatchewan Agri-food Park.

NABI is designed to be translational in the area of :

- a) Agriculture – new gene discovery, genomics, designer crops etc.
 - b) Food Technology – food processing technologies, bioprocess engineering, foodsafety etc.
 - c) Nutrition science and technology – Public health nutrition technologies, functional foods and nutraceuticals wellness foods etc.
- The cluster will produce not only PhDs but also agri-food entrepreneurs and spawn new industries for the region
 - The HR component reflects multiple skill sets needed - breeders, food specialists, toxicologists, nutritionists process engineers, managers, computer experts etc.

PRA/SKK (Release ID: 41640)

Annexure III

प्रथम मुख्य कार्यपालक अधिकारी, बीपीयू के कार्यभार संभालने संबंधित
Regarding Joining of First Chief Executive Officer of BPU

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
बायोटेक्नोलॉजी विभाग
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY




ब्लॉक-2, 7वां तल, सी० जी० ओ० सम्प्लेक्स
लोदी रोड, नई दिल्ली-110003
Block-2, 7th Floor C.G.O. Complex
Lodi Road, New Delhi-110003

No. BT/FNS/CEO-BPU/Selection/2011

Dated: 03.05.2012

ORDER

Consequent on his appointment to the post of Chief Executive Officer, Bioprocessing Unit, Mohali, Punjab vide this Department's Order of even number dated 27.02.2012, Dr. R.S. Sangwan has joined duties w.e.f. 01.05.2012(FN).


(K. Madhavan Kutty)
Deputy Secretary to the Govt. of India
Tel: 2436 0940

Copy to:-

1. Department of Personnel & Training (Kind Attention: Shri Mohd. Moniruzzaman, Under Secretary w.r. to DOP&T O.M. No. 22/50/2011-EO(SM.II) dated 23.02.2012.
2. Dr. R.S. Sangwan, Chief Executive Officer, Bio-processing Unit, Mohali.
3. Director General, CSIR, Anusandhan Bhawan, New Delhi
4. Director, Central Institute of Medicinal & Aromatic Plants, CSIR, P.O. CIMAP, Lucknow 226015 U.P.
5. Dr. Rakesh Tuli, Executive Director, NABI, Mohali.
6. Dr. Rajesh Kapur, Adviser, Department of Biotechnology, New Delhi.
7. PS to Minister for Science & Technology and ES
8. Sr. PPS to SBT.
9. PS to JS & FA/PS to JS(A)
10. PPVC Section.

Website: <http://www.dbtindia.nic.in> <http://www.btisnet.gov.in>
दूरभाष / Telephone : 24363012, 24362329 फैक्स / Fax : 011-24362884

CERTIFICATE OF REGISTRATION OF SOCIETIES

(ACT XXI OF 1860)

No. DIC / SAHIBZADA AJIT SINGH NAGAR 4352 / ²⁰¹²⁻²⁰¹³~~2011-2012~~ Date 27-09-2012

I hereby certify that BIOPROCESSING UNIT SOCIETY

SECTOR-81, P.O. MANAULLI, TEHSIL - S.A.S. NAGAR.

has this day been Registered under the Societies Registration Act, (XXI of 1860) and as Amended by Punjab Amendment Act, 1957.

Given under my hand at Sahibzada Ajit Singh Nagar this 27th day of SEPTEMBER 2012.

Fee Rs. 500/-




Additional Registrar of Societies
SAHIBZADA AJIT SINGH NAGAR

Annexure V

Memorandum of Association

BIOPROCESSING UNIT (BPU)

In the matter of Society Registration Act, XXI of 1860 being an act for the registration of Literary, Scientific and Charitable Societies

And

In the matter of BioProcessing Unit (BPU) Society (hereinafter referred to as the Society) pertaining to Rules and Regulations of the Society for the establishment and operation of a scientific institute presently named as BioProcessing Unit (BPU) for BioProcessing Innovations, Approaches, Processes and Technologies, and their Translation.

MEMORANDUM OF ASSOCIATION**1. PREAMBLE**

The primary objective of the BPU Society is to establish BioProcessing Unit, and take it to function and operate as an autonomous institution funded by the Department of Biotechnology, Government of India to undertake research and development activities relevant and related to bioprocessing innovations, approaches, processes and technologies, their optimization and translation by setting up the necessary scientific, administrative, financial, legal and technical framework and structuring the implementation mechanism, resource management and governance system.

It is considered expedient to provide the Society a legal entity by getting it registered under the Societies Registration Act, 1860, as applied to the State of Punjab.

2. a) **Name:** The name of the Society shall be BioProcessing Unit Society or BPU Society for short.
- b) **Office:** The registered office of the Society shall be at Knowledge City, Sector-81, S.A.S. Nagar, P.O. Manauli-140306, Mohali (Punjab).

3. DEFINITIONS AND INTERPRETATIONS

In this Memorandum and the Rules made there under unless the context otherwise requires:

- a. **“Act”** means the Societies Registration Act 1860, (Punjab Amendment Act, 1957) as applied to the State of Punjab or any statutory modification thereof for the time being in force.”
- b. **“Government”** shall mean the concerned administrative department under the Ministry of Science and Technology of Government of India i.e. Department of Biotechnology.
- c. **“BPU Society”** shall mean the body which is presented as the “BPU Society” In this memorandum of association or as constituted subsequently by the Government.
- d. **“Society”** shall mean the BioProcessing Unit Society known by the name as such or the style and manner of BPU Society or other name and abbreviation, if subsequently changed or amended by the BPU Society.
- e. **“Chief Executive Officer”** means Chief Executive Officer of the BioProcessing Unit, the autonomous institute under Department of Biotechnology.

Rajender Singh
(R.S. Sangwan)

N. Sathya
(N. Sathya)

R. Kapur
(Rajesh Kapur)

- f. The “**President**” shall mean the “President” of the BPU Society.
- g. “**Member**” shall mean only in the context of the specific body/committee under reference and the membership has a functional significance, unless specified otherwise” only under the body/committee it is specified and assigned to operate. Accordingly, it may mean, as the case may be:
 - i. The member of the BPU Society as per the constitution of the Society, or
 - ii. The member of the Society nominated by the Government
 - iii. Member of the Governing Body of the Institute
 - iv. Member of the Specified Committee or Sub-Committee of the Institute
 - v. Any other body/committee of the Society or Institute, if so constituted at that time
- h. “**Member Secretary**” means Member as well as Secretary of the BPU Society or of the “Governing Body” as contextual, as per constitution of the society. Chief Executive Officer (CEO) of the BioProcessing Unit shall be the Member Secretary.
- i. “**Expert**” shall mean a person well known in his/her field or a specialist from the field relevant or related to the subject or objectives or activities of the Society or one who can contribute advice or help with his expertise and/or experience to achieve the objectives of the Society or advise on evolving new activities/initiatives/models relevant to the objectives of the Society.
- j. “**Eminent Scientist**” or “**Renowned/Distinguished Scientist/Technologist**” shall mean professionally well-known, distinguished, renowned person from the community of scientists and technologists.
- k. Words importing the singular number shall include the plural number and vice-versa.
- l. Words importing the masculine gender shall include the feminine gender and vice-versa.

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4. OBJECTIVES OF THE SOCIETY

The primary objectives for which the Society is being established are:

- i. To carry out innovations, optimizations, up-scaling and translation of knowledge, approaches, technologies and processes related and/or relevant to processing of biomass, agri-food, agri produce etc.
- ii. To catalyze improvement and transformation of bioprocessing and agri-food sector through training, technological interventions, value addition, cultivating and evaluating ideas and model(s) etc. related to bioprocessing resources, processes and products etc.
- iii. To promote synergism among bioprocessing interested/relevant entrepreneurs, industrial establishments, start-up companies, resource holders, research and development institutes, educational and service institutions, individuals or innovator groups to function in partnership and/or collaborative mode
- iv. To advance and synergise innovation systems related to bioprocessing for development of *value added/new* novel products and to *serve as* an incubator/service platform for the common interest groups/companies/entrepreneurs etc.
- v. To facilitate testing, validation, optimization, up scaling etc. of the technologies and processes developed by the BioProcessing Unit (BPU), National Agri-Food Biotechnology Institute (NABI) and/or public institutions and/or those available through public domain/open sources and/or from other sources in India and abroad, after acquiring/adopting them through licensing/agreement/mutual understanding/consent etc. in case of proprietary issues.

Rajender Singh
(R.S. Sangwan)

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(N. Sathya)

R. Kapur
(Rajesh Kapur)

- vi To develop collaborations and new models of partnership, and to provide consultancies, service and support to bioprocessing concerned companies/entrepreneurs/co-operatives/other organizations, mainly in the primary and secondary agriculture sector.
- vii To undertake production of novel or improved foods or food products or feeds or other products for early development and for GMP compliance with respect to quality, regulatory, environment, safety etc. parameters and certifications thereof.
- viii To provide services, consultancies and support to the companies/co-operatives etc. in food, nutrition, agri-products, agri-buisness, secondary agriculture and allied areas.
- ix To innovate, test, translate and upscale lab-level R&D leads and outcomes related to approaches and technologies of processing biomass and biomaterials into quality products of varied human utilities including feed, food, nutrition, nutraceuticals, functional foods, phytochemicals, supplementals, additives etc. and other utility byproducts/co-products.
- x To establish globe-wide alliances with relevant industries/institutions and provide support, infrastructural, incubatory services to relevant companies, entrepreneurs and individuals, including for dissertations or exploratory or feasibility studies/reports etc.

5. Auxiliary Aims And Activities Of The Society

For pursuance and achievement of the above objectives, the Society aims to set up, organize, ensemble and operate expedient resources, support systems, structures, facilities etc. in place through the supplementary objectives as under:

- a. To have business/professional associates of BPU from academia, industry or the public for furtherance of the objects of the Society
- b. To accept subscriptions, grants, gifts, aids, donations, whether in cash or otherwise or of any property either movable or immovable in furtherance of the objectives of the Society on such terms as may be expedient.
- c. To accept and undertake the management of any society having objects similar to the objects of the Society with approval of the Government.
- d. To create administrative, technical and other posts, temporary or permanent for the Institute and make appointments thereto in accordance with the Rules and Regulations of the Institute.
- e. To enroll consultants, trainees, interns, project fellows, research fellows, other workers etc. on tenure, temporary, contractual, wages basis for the tasks at the Institute as expedient for the conduct of the aims and objectives of the Society.
- f. To undertake, facilitate and provide for the publication of newsletters, journals, books and other such actions for the exposition of the institute and its aims and objects.
- g. To establish, expand and maintain laboratories, workshops, residences, library and other such amenities/facilities/utilities/provisions etc, as per functional and operational needs of the Institute, its campus and staff, and as expedient to the aims and objects of the Society
- h. To constitute or cause to be constituted regional centers of the Institute in India and abroad for the furtherance of the aims and objectives of the Society

Rajender Singh
(R.S. Sangwan)

N. Sathya
(N. Sathya)

R. Kapur
(Rajesh Kapur)

- i. To create with the approval of the Government, spin-off/professional enterprises including Section-25 Company for facilitation and/or advancement and/or expansion and/or expansion and/or deliverable aids/mechanisms for the objectives of the Society.
- j. To subscribe the Society/Institute to any national and/or international organization having objects altogether or in part similar to those of the society on such terms and conditions as the Society may deem fit.
- k. To enter into any agreement with any government or authority (local or otherwise) or any corporation, company or person which may seem conducive to the Society's objects or any of them and to obtain from any such Government, authorities, corporations, companies, societies or persons any contracts, rights, privileges and concessions which the Society may think desirable and to carry out, exercise and comply with any such contracts, rights, privileges and concessions.
- l. To enter into collaborations, memorandum of understanding (MoUs), partnerships, agreements and contracts with Indian and/or foreign Individuals, companies or other organizations for transfer, sale, purchase, fabrication of equipment and for technical, financial or any other assistance for carrying out all or any of the objects of the Society.
- m. To hire professionals, consultants and other specialized agencies/workers for the Institute, as found necessary for handling and conduct of the business of the Society.
- n. To obtain licenses, certificates and privileges for BPU for all purposes from all persons, local authorities and the Central and State Governments, to renew the same and transfer the same in favour of any person or authorities to serve the cause of the objectives of the Society
- o. To lend or deposit moneys belonging to or entrusted to or at the disposal of the Society and associates of the Society with or without security, upon such terms as may be thought proper provided that the Society shall not carry on banking business as defined in Banking Companies Regulation Act 1949.
- p. To borrow and raise money with or without security or to receive money and deposit on interest or otherwise in such manner as the Society may deem fit.
- q. To draw, issue, accept, and to endorse, discount and negotiate promissory notes, bills of exchange, delivery orders, warrants, warehouse, keeping, certificates and other negotiable or commercial or mercantile Instrument connected with the business of the Society.
- r. To improve, manage, work, develop, alter, exchange, lease, mortgage, turn to account, abandon or otherwise deal with all or any part to the property rights and concessions of the Society, with approval of the Government.
- s. To let out on hire/service all or any of the properties of the Society including every description of apparatus appliances and facilities of the Society.
- t. To create any depreciation fund, reserve fund, sinking fund, insurance fund or any special or other fund whether for depreciation or for repairing, improving, extending or maintaining any of the properties of the Society and to transfer any such fund or part thereof to any of the other funds herein mentioned.
- u. To buy, sell, let on hire/service, repair, import, export, lease, trade and otherwise deal with all bioprocessing resources, facilities and supports systems as per needs of the Society to serve the objectives of the Society.
- v. To make Rules and Regulations and Bye-Laws for the conduct of the affairs of the Institute (BPU) and to add, to amend, vary or rescind one or more of them from time to time.

Rajender Duggan
(R.S. Sangwan)

N. S. K.
(N. Sathyanarayana)

R. Kapur
(Rajesh Kapur)

- w. To do all such other lawful things as are conducive or incidental to the attainment of the above objects and/or functioning of the Society and the Institute.

6. FUNDING, RESOURCES, OPERATIONS AND MANAGEMENT OF THE SOCIETY

- i Grants from the Government of India
- ii The Society may approach Government of India, or any financial institutions or sources or funding agencies for resourcing finances depending upon the policy at that time and upon the structure/requirements of the objectives of the Society at that time.
- iii The Society may facilitate/execute/implement projects and also provide services at a services charge to be decided by the Government.
- iv All finances in the name of Society would be accrued/appropriated to its functionary Institute for the objects of the Society i.e. BioProcessing Unit (BPU)
- v The Society would not have any staff of its own, whereas the Chief Executive Officer, other officers and staff of the institute (BPU) would be appointed as per Bye-laws of the institute.
- vi All the Income, earnings, movable and immovable properties of the Society shall be solely utilized and applied towards the promotion of its aims and objectives only, as set forth above in this Memorandum of Association or those in force at that time with the approval of the Government.
- vii No part of income and property of the Society shall be paid or transferred, directly or indirectly, by way of dividends, bonus, profits or in any manner whatsoever to the persons/body who are, or, at any time, have been or shall be members of the Society or Governing Body or any committee related to it or to any of them or to any person claiming through them or any of them. However, the members of the Society or any Committee related to it may be paid by the Society such traveling allowances, daily allowances and honorarium as approved by the Government or as may be provided for in the Bye-laws from time to time.
- viii No member of the Society shall have any personal claim on any moveable or immovable properties of the Society or make any profit, whatsoever by virtue of his/her membership.

7. INTERPRETATION OF AIMS, OBJECTIVES AND ACTIVITIES OF THE SOCIETY

The Institute is being established for the scientific research and development for the advancement of the, knowledge in public interest and benefit. Therefore, in case of any discrepancy, the objectives would be primarily interpreted in accordance with that spirit including their consideration as for public good and as of scientific, literary and charitable nature.

8. COMPOSITION OF THE BPU SOCIETY

The names, addresses, occupations and designations of the present members of the, BPU Society, to whom the management of the Society is entrusted, as required under Section 2 of The Societies Registration Act, 1860 as applicable to the State of Punjab are as follows:

Ajayender Singhwan
(R.S. Sangwan)

N. Sathya
(N. Sathya)

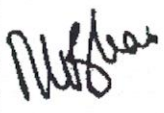
R. Kapur
(Rajesh Kapur)

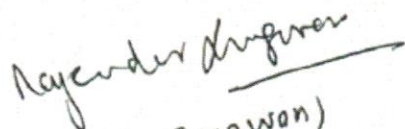
Sr. No.	Name	Designation and Official Address	Designation in the Society
1	Dr. M.K. Bhan	Secretary, Department of Biotechnology, Ministry of Science and Technology (Govt. of India) CGO Complex, Lodhi Road, New Delhi -110003	President (Ex-officio)
2	Smt. A Mitra	Financial Advisor, Department of Biotechnology, Ministry of Science and Technology (Govt. of India) CGO Complex, Lodhi Road, New Delhi -110003	Member (Ex-officio)
3	Dr. N. Sathyamurthy	Director, Indian Institute of Science Education and Research Sector-81, Mohali -140306, Punjab	Member (Ex-officio)
4	Dr. Akhilesh Tyagi	Director, National Institute of Plant Genome Research, Aruna Asif Ali Marg, New Delhi -110067	Member (Ex-officio)
5	Dr. V.S. Chauhan	Director, International Center for Genetic Engineering and Biotechnology, Aruna Asaf Ali Marg, New Delhi- 110067	Member (Ex-officio)
6	Dr. B. Sesikeran	Director, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad - 500604	Member (Ex-officio)
7	Dr. Rajesh Kapur	Advisor/Scientist 'G' Department of Biotechnology, Ministry of Science and Technology, (Govt. of India) CGO Complex, Lodhi Road, New Delhi - 110003	Member (Ex-officio)
8	Dr. R. S. Sangwan	Chief Executive Officer BioProcessing Unit (BPU) Sector-81, Mohali-140306,Punjab	Member Secretary (Ex-officio)

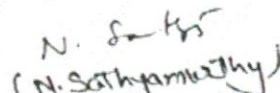
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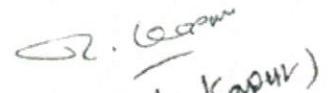
9. DESIROUS PERSONS

We, the undersigned are desirous of forming a Society namely the 'Bio Processing Unit Society' under the Societies Registration Act, 1860 (XXI of 1860) as applicable to the State of Punjab in pursuance of the Memorandum of Association of the Society. We, the several persons, whose names & addresses are given below, having associated ourselves for the purposes described in this Memorandum of Association and set out several and respective hands hereunto and from ourselves into a Society under the Societies Registration Act, 1860 (XXI of 1860), on this day of September month of year (A.D.) Two thousand Twelve.

Sr. No.	Name & Address	Age	Occupation	Sign
1	Dr. M.K. Bhan S/o Shri S.N. Bhan Secretary Department of Biotechnology, Ministry of Science and Technology (Govt. of India) CGO Complex, Lodhi Road, New Delhi -110003	64 Years	Academician/ Scientist/ Administrator	


(R.S. Sangwan)


(N. Sathyamurthy)


(Rajesh Kapur)

2	Smt. A Mitra Financial Advisor, Department of Biotechnology, Ministry of Science and Technology (Govt. of India) CGO Complex, Lodhi Road, New Delhi -110003	51 Years	Administrator	<i>hiker</i>
3	Dr. N. Sathyamurthy S/o Shri G. Narayanasami Director, Indian Institute of Science Education and Research Knowledge City, Sector-81, Manauli Post Officer, Mohali -140306, Punjab	60 Years	Academician/ Scientist/ Administrator	<i>N. Sathy</i>
4	Dr. Akhilesh Tyagi S/o Shri Bhagwat Prasad Tyagi Director, National Institute of Plant Genome Research, Aruna Asaf Ali Marg, New Delhi -110067	56 Years	Academician/ Scientist/ Administrator	<i>Akhilesh</i>
5	Dr. V.S. Chauhan S/o Shri Ratan Singh Chauhan Director, International Center for Genetic Engineering and Biotechnology, Aruna Asaf Ali Marg, New Delhi- 110067	62 Years	Academician/ Scientist/ Administrator	<i>V.S. Chauhan</i>
6	Dr. Rajesh Kapur S/o Shri Harendra Kapur Advisor/Scientist 'G' Department of Biotechnology, Ministry of Science and Technology, (Govt. of India) CGO Complex, Lodhi Road, New Delhi - 110003	55 Years	Scientist	<i>R. Kapur</i>
7	Shri Shreeshan Raghavan Joint Secretary, Department of Biotechnology, Ministry of Science & Tech- nology (Govt. of India), CGO Complex, Lodhi Road, New Delhi- 110003	56 Years	Administrator	<i>Shreeshan</i>

Witness : 1

S. K. Verma
(SUNEEY VERMA)
MANAGER (F)
BPU, MUMBAI

2

V. Sangh
(VIKRAM SANGH)
MANAGER (A)
BPU, MUMBAI

RULES AND REGULATIONS OF THE BIOPROCESSING UNIT

SHORT TITLE

- These Rules and Regulations shall be called the Rules and Regulation of the BioProcessing Unit hereinafter referred to as "Rules" or "Rules and Regulations"

DEFINITIONS AND INTERPRETATIONS

- In these Rules, the following words and abbreviations shall have the meanings given below to them, unless there is anything contrary/different in the subject or in context :
 - The "**Society**" shall mean the BioProcessing Unit Society or BPU Society formed for establishment and catalysis of performance of the Institute i.e, BioProcessing Unit, for the aimed objectives of the Society.

Rajender Sangwan
(R.S. Sangwan)

N. Sathy
(N. Sathyamurthy)

R. Kapur
(Rajesh Kapur)

- b. The **“Institute”** shall mean the BioProcessing Unit established by the Society for implementation of objectives.
- c. The **“Government”** shall mean the concerned administrative department under the Ministry of Science and Technology of Government of India i.e. Department of Biotechnology.
- d. The **“Government Body”** or GB shall mean the Governing Body of the Institute.
- e. The **“President”** shall mean the President of the BPU Society.
- f. The **“Chairman”** shall mean the Chairman of the Governing body of the Institute
- g. **“Member”** shall only mean in its specific context of the head or body under reference i.e. it would mean a member of the Society or member of the Governing Body or the member of a committee or sub-committee as be the case and context or any other committee if so constituted by the competent authorities of the Society/Institute from time to time. It would have no generic functional significance beyond its title body committee, unless specified otherwise.
- h. The **“Chief Executive Officer”** shall mean the Chief Executive Officer of the Institute appointed by the Government.
- i. **“Secretary”** means Member Secretary (unless specified otherwise) of the Governing Body of the Institute or BPU Society as per context/ reference, who shall be Chief Executive Officer of the Institute Ex-Officio.
- j. **“Expert”** shall mean a person well known in his/her field or a specialist from the field relevant or related to the subject or objectives or activities of the Society or one who can contribute /advice or help with his/her expertise and/or experience to achieve the objectives of the Society or advise on evolving new activities/initiatives/models relevant to the objectives of the Society in any capacity in a body or a committee or individually as required/relevant.
- k. **“Rules”** or **“Rules and Regulations”** mean rules and regulations of the Society under this Memorandum of Association as applicable to the Institute.
- l. **“Bye-laws”** shall mean the Bye-Laws stated herein as well as those framed or amended by the Governing Body of the Institute.
- m. The **“Year”** shall mean the period of 12 calendar months commencing from the first day of April and ending on the 31st day of March of the subsequent year. It will have the same connotations as the “Financial Year”.
- n. **“Department of Biotechnology”** or DBT shall mean the Department of Biotechnology under the Ministry of Science and Technology Government of India.
- o. Words importing the singular number shall include the plural number and *vice-versa*.
- p. Words importing only the masculine gender shall include the feminine gender and *vice-versa*.

MEMBERS OF THE BPU SOCIETY

3. The members of the society shall consist of the following:
- | | | |
|----------------------------|---|---------------------------------|
| a. Secretary, DBT | : | President (<i>Ex-officio</i>) |
| b. Chairman, GB, BPU | : | Member |
| c. Financial Advisor, DBT | : | Member (<i>Ex-officio</i>) |
| d. Four Eminent Scientist | : | Members |
| e. Concerned Advisor, DBT | : | Member |
| f. CEO, BioProcessing Unit | : | Member Secretary |

Rajender Sangwan
(R.S. Sangwan)

N. Sathya
(N. Sathya)

R. Kapur
(Rajesh Kapur)

FUNCTIONS OF THE BPU SOCIETY

4. The main functions of the BPU Society shall include (a) to catalyze the institutionalized implementation of the aimed objectives of the Society through the Institute (BPU) and its Governing Body, (b) to review the progress and performance of the Institute (BPU), (c) to give the policy directions to the Governing Body of BPU, (c) to approve the annual report and yearly audited accounts of BPU, (d) any other functions assigned by the Government.

MEETINGS AND PROCEEDINGS OF THE SOCIETY

5. **Annual General Meeting (AGM):** AGM of the society shall be held each year at such a time, date and place as may be determined by the President giving not less than fifteen days clear notice. Besides others, following business shall be transacted at the AGM:
- The Secretary shall submit the Annual Report and the Audited Statements of Accounts of the Society/Institute, together with the Auditor's Report thereon.
 - To appoint auditors and fix their remunerations.
6. **Special Meeting:** The President may convene a Special General Meeting of the Society, at his/her own initiative and/or on receipt of a written and signed requisition from not less than 50% of the members of the Society entitled to vote.
7. **Requisitioned Meeting:** (a) Any requisition made by the members of the Society for such a meeting shall state in their written requisition the business for which they wish such a meeting to be convened, (b) such a requisition for the meeting shall be left at the address of the Secretary or posted to his/her address.
8. At all Special and Requisitioned Meetings of the Society, no matter other than stated in the notice or requisition, as the case maybe, shall be discussed except when specially authorized for it by the President.
9. Excepting as otherwise provided in these Rules, all meetings of the Society shall be called by notice under the signatures of the Secretary or the President.
10. Every notice calling a meeting of the Society shall state the date, time and place at which such meeting will be held and shall be served upon every member of the Society not less than fifteen clear days before the day appointed for the meeting.
11. The accidental omissions to give notice to or the non- receipt of notice by any member shall not invalidate the proceedings of the meeting.
12. The President of the Society shall preside over all the meetings of the Society and if he/she is not present at any meeting or in his/her absence, the Chairman of the Governing Body shall preside at that meeting. In case, the Chairman of the Governing Body is also not present or in his/her absence, a member shall be elected from amongst those present to preside over the meeting.
13. No business shall be discussed at a meeting of the Society, whilst the chair of President is vacant, except the election of a member to preside the meeting as per Rule 12.
14. Four members of the Society present in person shall form a quorum at every meeting of the Society.
15. In the absence of quorum, the members gathered for the Meeting of the Society shall disperse for half an hour, the members gathered thereafter shall transact the business of the General Meeting with the members then present forming the quorum of the meeting.

Rajender Singh
(R.S. Sangwan)

N. Sathya
(N. Sathya)

R. Kapur
(Rajesh Kapur)

16. As far as possible, it shall be the endeavor of the Society to decide all matter by consensus. However, in case the difference of opinion on any matter, the matter would be decided by the majority of the votes of the members present and voting.
17. Each member of the Society shall have one vote.
18. In case of equality of votes, the President, or the member elected to preside over the meeting as per Rule 12, as the case maybe, shall have a casting vote.
19. The President of the Society or the member elected to reside the meeting as per Rule 12, as the case may be, shall be the sole judge of the validity of every vote casted at the Meeting of the Society.

THE GOVERNING BODY OF THE INSTITUTE

20. The affairs of the institute shall be managed, administered directed and controlled by the Governing Body subject to Rules, Bye-laws and Orders of the Society. The present Governing Body of the Institute for the above purpose of the Society shall consist of the following:

i	Dr. M.K. Bhan Secretary Department of Biotechnology, Government of India Or Nominee	Chairman	Ex-Officio
ii	Financial Advisor Department of Biotechnology, Govt. of India	Member	Ex-Officio
iii	Concerned Advisor, Department of Biotechnology, Govt. of India	Member	Ex-Officio
iv	Executive Director NABI Mohali	Member	Ex-Officio
v	Director, IISER, Mohali	Member	Ex-Officio
vi-vii	Two faculty Members from BPU by annual rotation (Nominated by GB)	Member(s)	
viii-xi	Three external experts from Academia and One external expert from Industry (Nominated by the GB)	Member(s)	
Xii	Chief Executive Officer of BPU	Member Secretary	

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21. The "Governing Body" of the Institute shall consist of all members of the Governing Body set up under Rule 20 of the Rules and such other persons who may be nominated by the Government.
22. Secretary, Department of Biotechnology or his/her nominee eminent scientist shall be the Chairman of the Governing Body of the Institute.
23. The "Institute" shall keep a roll of the members, giving their addresses and occupations and every member shall sign the same.
24. Unless membership of the Governing Body is terminated as provided in Rule 25 and subject to the provisions of Rule 29, each nominated (non ex-officio) member of the Governing Body shall relinquish his/her membership on expiry of three years from the date on which he/she becomes a member of the Governing Body, but he/she shall be eligible for re-appointment. In case of casual vacancy, the person appointed to fill the vacancy shall hold

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(N. Sathya)

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(Rajesh Kapur)

- the office for the unexpired portion of the term of the out-going member.
25. A member of the Governing Body shall cease to be a member on the happening of any of the following events:
 - a. If he/she resigns or becomes of unsound mind or becomes insolvent or is convicted of a criminal offence involving moral turpitude, or his/her employer refuses to grant him/her permission to serve on the Governing Body or he/she goes abroad for a continuous period exceeding one year.
 - b. If he/she does not attend three consecutive meetings of the Governing Body.
 26. Whenever a person holds a membership of the Governing Body by virtue of an office held by him/her (ex-officio), his membership shall terminate when he/she ceases to hold that office and the vacancy so caused shall be filled by his/her successor to that office.
 27. Whenever a member desires to resign from the membership of the Governing Body, he/she shall forward a letter containing his resignation addressed to the Secretary and his/her resignation shall take effect only on its acceptance by the Chairman.
 28. The members of the Governing Body shall not be entitled to any remuneration from the Society or the Institute excepting the full time Chief Executive Officer and faculty of the Institute. However, the members of the Governing Body or any Committee appointed by it may be paid by the Society such traveling allowances, daily allowances and honorarium as approved by the Government or as may be provided for in the Bye-laws from time to time
 29. The person holding the membership of the Governing Body by virtue of an office held by him/her (ex-officio) shall normally attend the Governing Body meetings himself/herself in person but in exceptional circumstances shall have the right to nominate a representative to act on his/her behalf at a particular meeting of the Governing Body and the representative so nominated shall be entitled to take part in the proceedings of that meeting, but not to vote there at.
 30. The Secretary shall attest the signatures of all the members of the new Governing Body and will ensure that the said signature of the outgoing Governing Body tally with the annual list as filed with the Registrar of the Societies before 15 days of the succeeding month in which the new Governing Body is constituted.
 31. The "Governing Body" shall function notwithstanding any vacancy in its body and no act or proceeding of the Governing Body shall be invalid merely by reasons of such vacancy or of any defect in the appointment of any of its members.

FUNCTIONS AND POWERS OF THE GOVERNING BODY

32. The Governing Body shall generally carry out and pursue the objectives of the Society, as set forth in the Memorandum of Association. The management of all the affairs and the funds of the Society shall, for this purpose, vest in the Governing Body.
33. The Governing Body shall exercise all the powers of the Society, subject, nevertheless, to such limitations as the Government of India, may from time to time, impose in respect of the expenditure from the funds of the Society and of the grants made by the Government of India.
34. In particular and without prejudice to the generality of the foregoing provisions, the Governing Body shall have the power, subject to the provision of the Rules and the Bye-laws to:

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(N. Sathya)

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- i. Consider annual and supplementary budgets placed before it by the Chief Executive Officer from time to time, and pass the same with such modifications as the Governing Body may deem fit.
- ii. Create, modify, abolish posts in accordance with the relevant Bye-laws of the Institute.
- iii. Appoint various scientific, technical, administrative and other officers and staff of the Society, fix their remunerations and define their duties and terms of employment.
- iv. Enter into arrangements with the Government of India and with the State Government and with other public and private organizations or individuals within the country for securing and accepting grants- in aid, endowments, donations or gifts to the Society, on mutually agreed terms and conditions; provided that such terms and conditions, if any, shall not be contrary to, inconsistent or in conflict with the objectives of the Society; provided, for any such arrangement with foreign and/or international agencies or organizations, prior approval of the Government of India has been obtained.
- v. Take over, acquire by purchase, gifts, exchange, lease or hire or otherwise from Government of India, State Governments and other public or private bodies or individuals, institutions, libraries, laboratories, immovable properties, endowments or other funds together with any attendant obligations and engagements, not such activity involving a foreign and/ or international agency or organization, prior approval of the Government of India has been obtained.
- vi. Appoint Committees and Sub-Committees for such purposes and with such powers and for such period and on such terms as it may deem fit, and change any of them partially or wholly or dissolve any of them.
- vii. Delegate such administrative and financial powers as it may deem proper to the Chairman, the Chief Executive Officer, and other officers of the Society as may be considered necessary or useful; and
- viii. Frame, adopt, amend or repeal Bye-laws, for the administration and management of the affairs of the Society and in particular to provide for the following matters:
 - a. preparation and sanction of budget estimates, sanctioning of expenditure, entering into and execution of contracts, investment of the funds of the Society, sale or alteration of such investments and maintenance of accounts and their audit;
 - b. procedure for recruitment of scientists, officers and other staff in the service of the Institute,
 - c. terms and tenures of appointments, emoluments, allowances, rules of discipline and other conditions of service of the Institute;
 - d. terms and conditions governing the grant/payment of honoraria, scholarships, fellowships, internships, project assistantships, awards and grants-in-aid for research schemes and projects and/or service of the Institute not inconsistent with the objectives of the Society.
 - e. such other matters as may be necessary from time to time for the administration of the affairs and funds of the Institute.

PROCEEDINGS OF THE GOVERNING BODY

35. Every meeting of the Governing Body shall be presided over by the Chairman and in his/her absence, a member chosen from amongst the members present for the meeting can provide for the occasion. However, Chief Executive officer of BPU and members of the Governing Body from the Institute (BPU) itself shall not be eligible to be elected to preside over the meeting on such occasions.

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(R.S. Sangwan)

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(N. Sathyanthy)

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(Rajesh Kapur)

36. Seven members of the Governing Body present in person shall constitute a quorum at any meeting of the Governing Body.
37. Not less than fifteen days' clear notice of every meeting of the Governing Body shall be given to each member of the Governing Body. The accidental omission to give notice to or the non-receipt of notice by any member shall not invalidate the proceedings at the meeting.
38. Normally one meeting of the Governing Body shall be held at least once in each half of the year or more frequently, if need arises in the opinion of the Chairman.
39. The decision of the Governing Body shall be taken by consensus of the members present or the majority of the members present and voting.
40. The Chairman may himself/herself call, or by a requisition in writing signed by him/her, may require the Secretary to call a meeting of the Governing Body at any time and on receipt of such a requisition, the Secretary shall forthwith call such a meeting.
41. Seven members of the Governing Body may, by a requisition in writing signed by them, request the Secretary to call a meeting of the Governing Body and on receipt of such a requisition, the Secretary shall call such a meeting within a period of one month in consultation with the Chairman.
42. Each member of the Governing Body shall have one vote, except as provided in Rule 29 and, if there shall be an equality of votes on any question to be decided by the Governing Body, the Chairman or the member presiding over the meeting shall have a casting vote.
43. Any business which may be necessary for the Governing Body to perform may be performed by a resolution in writing circulated among, all its members and any such resolution so circulated and approved by a majority of the members by signing, shall be as effectual and binding as if such resolution had been passed at a meeting of the Governing Body provided that at least five members of the Governing Body have recorded their approval to the resolution.
44. The chairman may, irrespective of the opinion of the members of the Governing Body, refer any question, which in his/her opinion is of sufficient importance, for decision to the Government of India. The decision of the Government of India shall be binding on the Society and its Governing Body.

AUTHORITIES AND OFFICERS, OF THE INSTITUTE

45. The following shall be the authorities of the Institute:
 - a. The Governing Body of BPU constituted as per Rule 20.
 - b. The Chief Executive Officer of BPU, who shall be a distinguished scientist appointed by the Government.
 - c. Such other authorities as may be specifically constituted or officers appointed as such by the Government.
46. The Institute shall establish and maintain its own office, laboratories and workshops, residences, facilities, amenities etc. at its campus. Till such time, such provisions are not in place by any or appropriate extent, the official business of the Institute may be conducted from an alternate place/premises, wholly or partially.
47. Appointments to various posts under the Institute shall be made in accordance with the By-laws approved for the purpose by the Governing Body. By the time such approved Bye-laws are not in place, Bye-laws of appointment embodied in the Memorandum of Association of National Institute of Immunology would be subscribed and they are all deemed to be incorporated here wholly by this citation.

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FUNCTIONS AND POWERS OF THE CHAIRMAN

48. The Chairman shall exercise such powers of the conduct of the business of the Institute as may be delegated to him by the Governing Body.
49. The Chairman may, in writing, delegate such of his/her powers as he/she may think necessary to the Chief Executive Officer.

FUNCTIONS AND POWERS OF THE CHIEF EXECUTIVE OFFICER

50. Subject to any order that may be passed by the Chairman in exercise of the powers delegated to him/her by the Governing Body, the Chief Executive Officer (CEO) shall be responsible for the proper administration of the affairs and funds of the Society/Institute under the direction and guidance of the Governing Body. He/she shall be vested with such executive and administrative powers of the Society/Institute as may be necessary or incidental for the purpose, subject to these Rules and Bye-laws.
51. The CEO shall, subject to the provisions of these Rules and Bye-laws and decisions of the Governing Body and the Chairman, exercise general supervision and disciplinary control over the scientists, officers and the staff of the institute, and prescribe their duties and functions directly or through their seniors.
52. The CEO of the Institute shall be the Secretary of the Society. For the purposes of the Societies Registration Act 1860 (XXI of 1860), the Secretary shall be considered the Principal Secretary of the Society and the Society may sue or be sued in the name of the Secretary of the Society.
53. The CEO shall be responsible for designing and maintaining unified integrity of perspectives for the BPU, and ensuring that various center/cells of the Institute function coordinately in the framework of this perspective.
54. The CEO will conduct the administration and financial business of the Society and the Institute through the Institute Management Committee (IMC) comprising of Senior Officials of the Institute, *ex-officio* members, one faculty member by annual rotation and himself/herself as the Chair. The IMC will prepare the Institute budget which shall be submitted to Department of Biotechnology, Govt. of India or other funding sources by the Chief Executive Officer. The other major responsibilities of the IMC include the constitution of the Scientific Advisory Committee of the Institute, Technical Advisory Committee(s) of the Institute and Management Committees of the department Cells/Work Groups of the BPU (on their respective development to the size requiring such committees for management and specific allocation of budgets and the participatory administration of the Institute). Where the Departments/Cells/Centers are developed in partnership with outside agencies, the terms of agreement for their governance shall be adhered to, within the overall BPU spirit of collaborative management.
55. Further, the CEO may delegate administrative and financial powers to the designated officials of the Institute for day to day functioning of their respective Departments/Centers etc., with the approval of Governing Body.

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COMMITTEES OF THE INSTITUTE

56. The administrative, scientific, technical and financial management of the Institute would vest in the Governing Body of the Institute. The Governing Body would conduct periodical review and monitoring of the activities and take remedial measures as deemed fit to enable the proper pursuance of the aimed objectives of the Institute. To steer the management of these domain-specific affairs of the Institute, Governing Body would nominate appropriate committees and sub-committees like Finance Committee (FC), the Scientific Advisory Committee (SAC) and the Business Advisory and Product Development Committee (BAPDC) etc.

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(N. Sathyanarayana)

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(Rajesh Kapur)

The Finance Committee (FC)

57. The Finance Committee of the Institute would consist of the following:

Secretary, Department of Biotechnology, Government of India	Chairman FC, <i>Ex-Officio</i>
Financial Adviser, Department of Biotechnology Government of India	Member, <i>Ex-Officio</i>
Chief Executive Officer, BPU	Member, <i>Ex-Officio</i>
Adviser, Department of Biotechnology Government of India	Member, <i>Ex-Officio</i>
Senior Finance Officer, BPU	Non-Member Secretary and Convener

58. The Finance Committee will consider important financial matters and make its recommendations to the Governing Body. It should meet at least twice a year or as often as considered necessary.

Scientific Advisory Committee (SAC)

59. The Scientific Advisory Committee shall evolve the scientific and technical programmers of the Institute, review them periodically and shall take further course of action as deemed fit for furthering the scientific and technological research and other associated functions/activities of the Institute.

60. The Scientific Advisory Committee (SAC) of BPU shall have the following composition

i	A renowned and distinguished Scientist: <i>SAC (in the area of Bioprocessing)</i>	Chairman
ii	Representative from the DBT:	Member
iii	Chairman, BPU Technical Advisory Committee:	Member
iv	A Senior Scientist of BPU: <i>(nominated by the Governing Body of BPU)</i>	Member
v	Executive Director, NABI, Mohali	Member <i>(ex-Officio)</i>
vi-xi	Six distinguished Scientists: <i>(nominated by the Governing Body of BPU)</i>	Members
xii	CEO of BPU:	Convener <i>(ex-Officio)</i>

61. SAC should meet at least once a year.
62. The recommendations of the SAC would be submitted to the Governing Body for approval.
63. The tenure of the Committee shall ordinarily be 3 years, which can be extended or the committee may be reconstituted by the Governing Body after 3 years.

Technical/Advisory Committee (TAC)

64. The Scientific Advisory Committee shall be serviced by a "Technical Advisory Committee" (TAC). The TAC would review-cum-advise on the scientific and technical programs of divisions/cells/work groups/work packages; design future plans for new areas/missions or programs and also provide guidance for scientific staff including hiring process for support, of activity, supervise the experimental trials/validation studies along with

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devising and overseeing the synergy with other institutions being set up in the “Knowledge City” at Mohali viz National Agri-Food Biotechnology Institute, Indian Institute of Science Education & Research, Institute of Nan Science & Technology, Biotech Park etc.

65. The Chairman TAC (a distinguished scientist/technologist) shall also be members of the Scientific Advisory Committee (SAC).

Business Advisory and Product Development Committee (BAPDC)

66. Given the translational goals of the BPU, a Business Advisory & Product Development Committee (BAPDC) will be established by the Governing Body to support product development and create policies and system for technology transfer, product commercialization involve experts and consultants to strengthen the activity facilitate the national and global partnerships for the initiative and manage the user charge based facility for industry and public institutions. The BAPDC will also negotiate early stage technology transfer from institutions in India and abroad for further development.

67. The BAPDC shall have the following composition:

a.	A renowned/distinguished technocrat: (in Bioprocessing area)	Chairman
b.	Representative from the OBT:	Member
c.	Three Representatives from Business Institutions: (Venture Capital)	Members
d.	Executive Director, NABI, Mohali:	Member
e.	Two experts from BioProcessing Industry:	Members
f.	One IR Expert:	Member
g.	One expert from Business Management Sciences:	Member
h.	Chief Executive Officer, BPU:	Convener (Ex-Officio)

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68. Besides above, the Governing Body may constitute other committees and nominate members thereon as deemed fit for the smooth conduct of the Institute with respect to the routine business of the Institute and implementation of its objectives from time to time.

FUNDS OF THE INSTITUTE

69. The funds of the Institute will consist of the following:
- Lump sum grants made by the Government of India
 - Salary, recurring, non-recurring and other grants made by the Government of India.
 - Project mode financial allocations, grant-in-aid or consultancy projects undertaken by the Institute from different funding agencies of central and state governments and other public sector organizations and establishment.
 - Project, consultancy, service etc based finances resourced to industries, companies etc.
 - Partnership/collaborations with international organizations, networks, consortia etc. with objectives common or complementary to those of the Society/ Institute.
 - All money received by the Society/institute by way of sales, grants, gifts, donations or other contributions.

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N. Sankar
(N. Sathyanarayana)

R. (Rajesh)
(Rajesh Kapur)

70. All funds of the Institute shall be paid into the Institute's account with either a Government Treasury /Sub Treasury or Reserve Bank of India, branches of the State Bank of India and its subsidiaries or in a scheduled/ nationalized bank and shall not be withdrawn except on cheques signed and countersigned by such officers as may be duly empowered on this behalf by the Governing Body. Till such time the BPU staff is recruited, the cheques would be signed by the Chief Executive Officer.
71. The income and property of the Society, however derived, shall be applied towards the promotion of the objectives thereof as set forth in this Memorandum of Association subject nevertheless in respect of the expenditure grants made by the Government of India to such limitations as the Government of India may from time to time impose. No portion of the income and property of the Society shall be paid or transferred directly or indirectly to any of the members through any means either by way of dividends, bonus, or otherwise howsoever by way of profit, to the persons who at any time are or have been members of the Society or to any of them or to any persons claiming through them or any of them provided that nothing herein contained shall prevent the payment in good faith of remuneration to any member thereof or other person in return for any service rendered to the Society and payments in lieu of intellectual property as per guidelines framed by the Governing Body.

ACCOUNTS AND AUDIT

72. The accounts of the Society shall be normally audited annually by such person(s) who is/are Chartered Accountant(s), approved by the Governing Body or nominated by the Government.
73. The nature of audit to be applied should be based on the financial norms which take into account the intellectual component of research resulting into tangible and intangible benefits thereto.
74. The nature of audit to be applied and the detailed arrangements to be made in regard to the form of accounts and their maintenance and the presentation of the accounts for audit shall be prescribed by Bye- laws to be framed by the Governing Body and approved by the Government.

ANNUAL REPORT

75. The draft Annual Report of the Society/Institute shall be prepared by the Chief Executive Officer by such date as prescribed by the Governing Body. It shall, among other things, contain a brief account of the research and development work carried out.
76. The report along with the audited accounts and the auditor's report therein shall be placed before the Governing Society for approval.
77. The Governing Body approved Annual Report of the Society/Institute would be submitted at every Annual General Meeting of the Society for information of the Society and the Government of India.

ALTERATION OF RULES AND REGULATIONS

78. The Rules of the Society Institute may be altered at any time on the recommendation of the Governing Body of the Institute by a resolution passed by a majority of the members of the Society present at any meeting of the Society.

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79. These alterations shall come into force when approved at a meeting by the Society which shall have been duly convened for the purpose

ANNUAL LIST OF GOVERNING BODY

80. Once in every year, a list of members of the Governing Body of the Institute shall be filed with the Registrar of Societies as required under Section 4 of the Societies Registration Act, 1860 (XXI of 1860) as applicable to the State of Punjab.

INCOME AND PROPERTY

81. The income and property of the Society, however derived, shall be applied on towards the promotion of the objectives thereof as set forth in this Memorandum of Association and for meeting the administrative expenditure of the Society and Institute.
82. Notwithstanding the Rule 81, Government of India may impose limitations from time to time with respect to such expenditure from grants made by the Government of India.
83. No portion of the income and property of the Society shall be paid or transferred directly or indirectly to any of the members through any means either by way of dividends, bonus, or otherwise howsoever by way of profit to the persons who at any time are or have been members of the Society or to any of them or to any person claiming through them or any of them.
84. It is provided that anything contained in Rule 83 shall prevent the payment in good faith reasonable and proper remuneration and reimbursement to any member/invitee of the Society or other persons in return for any service rendered to the Society and/or Institute, traveling, halting and other similar expenses, payments in lieu of intellectual property etc. as per guidelines framed by the Governing Body.
85. Any of the arising funds, which may not be immediately required for research and other related objectives may be invested in appropriate/approved instruments/ financial institutions of the Government of India.

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LEGAL PROCEEDINGS

86. The Society may sue or be sued in the name of the President or Secretary as per the provisions laid down under Section 6 of the Societies Registration Act, 1860 (XXI of 1860) as applicable to the State of Punjab.
87. No suit or legal proceedings shall lie against the Government or the Institute or a Member of the Society or an officer/Staff of the Institute in respect of anything done or purported or intended to be done in pursuance of any clauses of the Memorandum of Association or the Rules or Bye-laws made there under

AMENDMENT IN THE CONSTITUTION OF THE SOCIETY

88. Any kind of amendment to the Memorandum of Association, the Rules and Regulations or the name of the society or the institute or any proposal for the amendment in the Constitution of the Society shall be made as per Section 12 of the Societies Registration Act, 1860 (XXI of 1860) as applicable to the State of Punjab.

Rajender Singh
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89. No amendments to the Memorandum of Association and Rules and Regulations shall be made which may prove to be repugnant to the provisions of Sections 2(15), 11, 12, 13 and other Sections of the Income Tax Act 1961, as amended from time to time, providing income tax exemption to such scientific, literary and charitable societies. Further no such amendments shall be carried out without the prior approval of the competent Income Tax Authorities for the Income Tax Exemptions.

REVIEW AND INSPECTIONS

90. The functioning and progress of the Institute would be reviewed annually 'by the Society and guidelines would be provided accordingly with respect to policies as well as functions.
91. The Governing Body would also periodically review the progress of the Institute and may direct on improvements on research and development and management.
92. The Comptroller and Auditor General of India shall have the right to exercise its own audit of accounts of the Society/Institute.
93. Government of India may appoint person(s) to review the work and progress of the Society and Institute, if it may consider necessary, and give directions in respect of policies and programs.
94. Government of India shall have powers to examine the affairs of the Society/Institute and, thereon, give directives for resolving the difficulties/issues, if any. Such directives would be binding on the Society/Institute.

DISSOLUTION OR WINDING UP

95. Upon a resolution passed by a majority of the members of the Society, but not less than 2/3rd of the total members, the Society can determine that the Society shall be dissolved forthwith or on such date as may be agreed upon and confirmed by 2/3rd of the members present at a second special meeting .
96. The Society shall at the same meeting and at the time of passing a resolution dissolving the Society, determine the method to be followed for disposal and settlement of its properties and debts.
97. In the event of dissolution, the properties and funds of the Society that remain, after the satisfaction of all its debts and liability, shall not be paid to or distributed among the members of the Society or any of them but shall be given to some other Society with aims and objectives similar or allied to this Society provided that such other Society has been recognized by the Income Tax authorities under the provisions of Income Tax Act, 1961 and provided that such other Society shall be determined by the votes not less than 3/4th of the members present personally at the time of the dissolution or in default thereof by the Principal court of original civil jurisdiction of the district in which the registered office of the Society is then situated.

Rajender Arora
(R.S. Sangwan)

N. Sathya
(N. Sathya)

R. Kapur
(Rajesh Kapur)

APPLICABILITY OF THE SOCIETIES REGISTRATION ACT, 1860

All provisions contained in the Societies Registration Act, 1860 (XXI of 1860), as applicable to State of Punjab, shall apply to this Society. We, the following/members of the Governing Body certify that the Rules of the Society given above are correct.

Sr. No.	Name & Address	Age	Occupation	Sign
1	Dr. M. K. Bhan S/o Shri S. N. Bhan Secretary, Department of Biotechnology, Ministry of Science & Technology (Govt. of India), CGO Complex, Lodhi Road, New Delhi-110003	64 years	Academician/ Scientist/ Administrator	
2	Smt. A. Mitra Financial Advisor, Department of Biotechnology, Ministry of Science & Technology (Govt. of India), CGO Complex, Lodhi Road, New Delhi-110003	51 Years	Administrator	
3	Dr. N. Sathyamurthy S/o Shri G. Narayanasami Director, Indian Institute of Science Education and Research, Knowledge City, S.A.S. Nagar, Sector-81, Manauli Post Office, Mohali - 140306, Punjab	60 Years	Academician/ Scientist/ Administrator	
4	Dr. Akhilesh Tyagi S/o Shri Bhagwat Prasad Tyagi Director, National Institute of Plant Genome Research, Aruna Asaf Ali Marg, P.O. Box No. 10531, New Delhi-110067	58 Years	Academician/ Scientist/ Administrator	
5	Dr. V.S. Chauhan S/o Shri Ratan Singh Chauhan Director, International Centre for Genetic Engineering & Biotechnology, Aruna Asaf Ali Marg, New Delhi-110067	62 Years	Academician/ Scientist/ Administrator	
6	Dr. Rajesh Kapur S/o Shri Harendra Kapur Advisor, Department of Biotechnology, Ministry of Science & Technology (Govt. of India), CGO Complex, Lodhi Road, New Delhi-110003	55 Years	Scientist	
7	Shri Sreeshan Raghavan Joint Secretary, Department of Biotechnology, Ministry of Science & Technology (Govt. of India), CGO Complex, Lodhi Road, New Delhi-110003	56 Years	Administrator	

Annexure- 'A'

(Form to be filled in by the Authorized person filing application for registration of Society/Trust)

S. No.	Contents	Remarks
1	Name of the Society/Trust	The BioProcessing Unit Society (BPU Society)
2	Complete Address of the place where Society/Trust is functioning	BioProcessing Unit, Knowledge City, Sector-81, S.A.S. Nagar Manauli Post Office, Mohali-140306; (Office: C/o IISER, Knowledge City, Sector-81, S.A.S. Nagar, Manauli Post Office, Mohali - 140306
3	Brief note on the activities of the Society/Trust	Primary objective of the BioProcessing Unit (BPU) Society is to establish BPU and make it to function and operate as an autonomous institute under the Department of Biotechnology, (Government of India) to undertake research and development activities relevant and related to bioprocessing innovations, approaches, processes and technologies, their optimization and translation by setting up the necessary scientific, administrative, financial, legal and technical framework, and structuring the implementation mechanism, resource management and governance system. The Society through its institute (BioProcessing Unit, BPU) would carry out innovations, optimization, up-scaling and translation of knowledge, technologies and processes related to processing of biomass, agri-food, agri-produce etc. It would also catalyze improvement of bioprocessing and agri-food sector through training, technological interventions, value addition, cultivating and evaluating ideas and model(s) etc.
4	Name and complete Address of Office Bearers/members of Governing Body of the Society	<p align="center"><u>GOVERNING BODY PRESIDENT</u> Dr. M.K. Bhan Secretary Department of Biotechnology Ministry of Science & Technology (Govt. of India), CGO Complex, Lodhi Road, New Delhi-110003</p> <p align="center"><u>GOVERNING BODY MEMBER</u> Smt. A. Mitra Financial Advisor Department of Biotechnology, Ministry of Science & Technology (Govt. of India) CGO Complex, Lodhi Road, New Delhi - 110003</p> <p align="center">Dr. N. Sathyamurthy Director Indian Institute of Science Education and Research, Knowledge City, S.A.S. Nagar, Sector-81, Manauli Post office, Mohali - 140306, Punjab</p> <p align="center">Dr. Akhilesh Tyagi Director National Institute of Plant Genome Research, Aruna Asaf Ali Marg, New Delhi-110067</p> <p align="center">Dr. V.S. Chauhan Director International Centre for Genetic Engineering & Biotechnology, Aruna Asaf Ali Marg, New Delhi-110067</p>

5		<p>Dr. B. Sesikeran Director National Institute of Nutrition, Indian Council of Medical Research, Jamai-Osmania PO, Hyderabad- 500 604, Andhra Pradesh</p> <p>Dr. Rajesh Kapur Advisor Department of Biotechnology, Ministry of Science & Technology, (Govt. of India), CGO Complex, Lodhi Road, New Delhi – 110003</p> <p>Governing Body Member-Secretary: Dr. Rajender S. Sangwan Chief Executive Officer BioProcessing Unit (BPU), Sector-81, Mohali-140306 Office: c/o IISER(IWD Building) Knowledge City, Sector-81 S.A.S Nagar Mohali - 140306 Punjab</p>
6	Whether the Office Bearers or members of Governing Body involved in any Criminal Cases, if so kindly furnish details of cases	No.
7	Permanent Account Number (PAN) of the members/office bearers of the Society	PAN No. ACSPS1761J (Dr. R S Sangwan, Member Secretary, Governing Body, BioPrcessing Unit Society & CEO, BPU)
8	Details of Initial investments i.e. details of tangible or intangible assets	Rs. 50,00000/- only (Rupees Fifty Lakhs only) as the amount in the account with the bank (State Bank of India, Branch- S.A.S. Nagar, Mohali, Punjab)

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Rajender Sangwan
(R.S. Sangwan)

N. Sathya
(N. Sathya)

R. Kapur
(Rajesh Kapur)

Amendments/Correction/Explanations in Rules and regulations under Memorandum of Association

The first meeting of the Governing Body (GB) of Bio Processing Unit on 09th November, 2012 at 14:30 hrs in Room No:727, Department of Biotechnology, CGO Complex, New Delhi approved the following amendments in the Rules and Regulations under the Memorandum of Association of BPU.

Amendment 1:

Amendment of Rule 36: to read from

“Seven members of the Governing Body present in person shall constitute a quorum at any meeting of the Governing Body.”

To

“Ordinarily, seven members of the Governing Body present shall constitute a quorum at any meeting of the Governing Body. However, in case vacancy(ies) remain unfilled in the GB at anytime for any reason in its composition as per Rule 20, the quorum would be completed by the presence of more than 50% of the members of the actual strength of the house at the time of the meeting. In the absence of quorum, the members gathered for the Meeting of the Governing Body shall disperse for half an hour, and the members gathered thereafter shall transact the business of the General Meeting with the members then present forming the quorum for the meeting provided that Chairman of the Governing Body, as per Rule 20(i) is present.”

Amendment 2:

The Governing Body decided to merge the “Technical Advisory Committee” and “Business Advisory & Product Development Committee” of BPU into a single committee to be called as “Technical Advisory and Product Innovation Committee (TAPIC)”. The committee would have a dynamic composition and committee members shall have no fixed terms or fixed term of reference. The membership of the committee shall be performance-cum-need based and members would be replaced by newer members based on need and/or priority at that time. Further, the Governing Body decided the CEO may draw such names for dynamic/rotational invitation as members of TAPIC with the consideration and advice of the Chairman of GB from time to time. The TAPIC and its composition would replace the two committees and their composition stated in the Rules and Regulations of the BPU.

Explanation regarding the Constitution Scientific Advisory Committee (SAC) of BPU:

A panel of SAC members is constituted. A total of atleast six experts out of the mentioned panel in the Memorandum of Association would be selected by the CEO, depending upon the technical nature of the agenda and shall constitute as members of a given Scientific Advisory Committee meeting.

गमाडा संकल्पना योजना अनुमोदन प्रपत्र
Greater Mohali Area Development Authority (GMADA)
Concept Plan approval Document

**GREATER MOHALI AREA DEVELOPMENT AUTHORITY
PUDA BHAWAN, SECTOR - 62, S.A.S. NAGAR**

To

The Executive Director,
National Agri Food Biotechnology Institute (NABI)
S.A.S. Nagar (Mohali).


Memo No. GMADA/DTP/2013/1600
Date: - 16/8/13

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Sub: - Approval of Concept Plan for National Agri Food Biotechnology Institute (NABI), Sector 81, S.A.S. Nagar.

The approval of concept plans of National Agri Food Biotechnology Institute (NABI), Sector-81 SAS Nagar (Mohali) is hereby accorded subject to following conditions:-

- 1) The NOC in respect of height of building will be obtained from Air Force Authorities before starting the work.
- 2) Construction of Laboratory Block will be started after shifting of H.T. Lines.


Additional Chief Administration
GMADA, S.A.S. Nagar 16/8

Annexure VII

Transfer of land to DBT (Govt. of India) by Punjab Govt.,
through GMADA, for establishment of B.P.U. at Mohali

**Greater Mohali Area Development Authority
(GMADA)
(PUDA Bhawan, Sector 62, SAS Nagar)**

Memo No. _____ **Dated:-** _____

To The, Secretary, Government of India,
Ministry of Science and Technology
Department of Biotechnology Block 2
7th floor, CGO Complex, Lodhi Road
New Delhi- 110003.

3. 11. 2008 / 31/4-6-2008
STEJ
6-6-08

Subject:- **Setting up of Bio-Processing Unit in Knowledge City, Sector 81, SAS Nagar**

1. On behalf of Government of Punjab, Department of Housing and Urban Development, the land measuring 15 acres (approx.) in Sector 81, Mohali (Knowledge City) is hereby transferred to the Ministry of Science and Technology, Department of Biotechnology as detailed in drawing No. DTP (SAS Nagar) 620/07 dated 12.11.2007 on as is where is basis for the purpose of setting up of Bio-Processing Unit. The transfer shall be subject to the following conditions:-

- i). Zoning Plan/ Building plans of all these institutes would be governed by PUDA Building rules and would be got approved from GMADA.
- ii). The land would be utilized for the purpose for which it has been transferred. Any change of use or purpose will be got approved from Government of Punjab.
- iii). The transferee will have to pay EDC charges as fixed vide Government of Punjab, Department of Housing & Urban Development notification No. 17/ 17/ 01/ 5HG2/ 327 dated 11.1.2008.
- iv). The transfer of this land will be subject to the out come of decision of Supreme Court where the acquisition case is pending decision. The area under stay by any competent court will not be transferred. The possession of the same would be given after the stay is vacated by the court.

2. You are requested to depute your representative to liaise with the Estate Office, GMADA, Mohali for demarcation and taking the physical possession of the land.

3. This issues with the approval of the Hon'ble Chief Minister, Punjab.

DA/ Drawing No. DTP (SAS Nagar) 620/07 dated 12.11.2007
Endst. No. 16649

2196
10/6/08
Estate Officer
GMADA, Mohali
Dated: 31/4-6-2008

Copy of the above is being sent to the following for kind information and appropriate action where necessary:-

1. The Secretary, Government of Punjab, Department of Housing and Urban Development, Chandigarh
2. The Secretary, Government of Punjab, Department of Science & Technology, Chandigarh.

Estate Officer
GMADA, Mohali

Head
5/6
ISSUE
31/6
31/6

**GREATER MOHALI AREA DEVELOPMENT AUTHORITY
PUDA Bhawan, Sector-62, SAS Nagar (Mohali)**

POSSESSION CERTIFICATE

Possession of the land measuring ~~12 acres out of 15 acres~~ in Sector-81 (Knowledge City), S.A.S. Nagar allotted for setting up of Bio-processing Unit to the ~~Department of Biotechnology, Government of India~~ vide letter No. 16647-49 dated 3/4-6-08 is hereby given to Dr. Rajesh Kapur, Adviser & representative of the Department, as per concept plan. Possession of remaining 3 acres of land earmarked for BPU which is still to be acquired will be given subsequently after its acquisition.

Possession of this land will be subject to the outcome of decision of Hon'ble Supreme Court where the acquisition case is pending of decision. The possession of land under stay/litigation by any competent court will not be given. The possession of the same would be given after the stay/litigation is vacated by the court.

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Signature of the Representative



Dr. RAJESH KAPUR
Adviser
Govt. of India
Department of Biotechnology
Ministry of Science & Technology
New Delhi


Assistant Estate Officer
GMADA, SAS Nagar

Endst. No. 3576

Dated: 06/02/2008

I, DR. RAJESH KAPUR have taken the possession of the above land. I do not want to take over the moveable & immovable property i.e. trees, tubewell, well and any type of structure.

Signature of the Representative



Dr. RAJESH KAPUR
Adviser
Govt. of India
Department of Biotechnology

991473782

Annexure VIII

बीपीयू को डीएसआईआर अनुसंधान और विकास संस्थान के रूप में
स्वीकृति और कस्टम ड्यूटी छूट की पात्रता का प्रमाणपत्र
DSIR Approval of BPU as an R&D Institute and its
Entitlement for Customs Duty Exemption

No. TUN/RG-CDE(1191)12013

To

The Director
Bio Processing Unit (BPU)
C-127. Industrial Area, Phase VIII
S.A.S. Nagar, Mohali - 160 171
Punjab

Subject:

Registration of Public Funded Research Institutions or a University or an Indian Institute of Technology or Indian Institute of Science, Bangalore or a Regional Engg. College, other than a Hospital, for the purposes of availing customs/Central Excise duty exemption in terms of Govt. notification NO.51/96-Customs dated 23.7.1996 and Central Excise Duty Exemption in terms of Govt. notification No.1 0/97 -Central Excise dt.01.03.1997 as amended from time to time.

With Reference: Your application dated 9th February, 2013 on the above subject, this is the certificate of registration.

CERTIFICATE OF REGISTRATION

This is to certify that Bio Processing Unit (BPU), Mohali (Punjab) is registered with the Department of Scientific & Industrial Research (DSIR) for purposes of availing customs duty exemption in terms of Government Notification No. 51/96-Customs dated 23 July, 1996 and Central Excise duty exemption in terms of Government Notification No. 10/97-Central Excise dated 1 March, 1997 as amended from time to time. The registration is subject to terms and conditions mentioned overleaf.

This registration is valid upto 31.08.2016.
Please acknowledge the receipt.

Yours faithfully

(K Mishra)
Scientist - F I Director

Terms and conditions for registration of public funded research institutions, etc., other than a hospital for the purposes of availing customs/central excise duty exemption in terms of Govt. notifications no.51/96-custnm~ d1.23.7.1996 and no.10197-cenral excise dl.1.3.1997 as amended from time to time.

1. The institution should acknowledge receipt of the registration letter by stating that they will abide by the terms and conditions of registration.
2. The registration would be valid for the period specified in the registration letter**. Request for renewal of registration shall be made in the prescribed Performa at least 3 months before the expiry of the valid registration. Applications received late may not be considered. **However, certificate of registration is not valid for activities falling within the definition of 'hospital' as per notification no. 51/96c-Custom dated 23.07.1996 and No. 10/97-Central Excise dated 01.03.1997 issued by the Department of Revenue. The institutions are cautioned to go through the notifications before availing duty exemptions under these notifications.
3. Brief summary of the R&D activities, status of on-going projects and achievements of the institution shall be submitted to the DSIR at the end of 5(five) years, in case of institution where validity of registration is 10(ten) years. This should include details related to papers published patents obtained and processes developed, new products introduced, award, & prizes received and copy of the latest Annual Report.
4. The institution should have a broad based research advisory committee (RAC), which should meet at regular intervals for approving, guiding and monitoring the ongoing and future research projects.
5. The institution should have separate budget for research. The institution should utilise the duty exemption facility as per the above-mentioned notifications for research purposes only. Non-research requirement such as the one for service activities, teaching, training, patient care, etc. should not be procured availing the facility.
6. DSIR will not be responsible for any misuse of the duty exemptions facility using this certificate. The onus of proving that duty exemptions have been availed for research purpose only lies with the Institution.
7. The institutions should introduce a chapter in its Annual Report dealing with the research & development work. This could contain the on-going research projects, achievements during the year, publications, patents if any, etc. The R&D income & expenditure should be separately shown in an annexure/schedule in the statement of accounts in the Annual Report.
8. The registration will entitle the institutions to avail custom/excise duty exemption on purchase of equipment, instruments spare, thereof, consumables etc. used for research & development subject to relevant Government policies in force from time to time. Such exemptions will have to be separately applied for in the prescribed formats. The institutions should also abide b) the terms & conditions of the customs & central excise notifications issued/amended from time to time.
9. In case of disposal/sale of R&D equipment clearance from customs/excise authorities will also be required in view of tile applicable notifications under which the equipment was imported /purchased in India.
10. The institution should submit half-yearly returns of the imports and domestic purchases in the month of January and July every year in the Performa issued by DSIR along with detail of items, their value & utilisation.
11. Any violation of the terms & conditions mentioned above and/or provisions of taxation in force will make the institution liable to de-registration.
12. The institution will also conform to such other conditions for registration stipulated in the Guidelines, as may be specifically provided in the registration letter and notices placed on department official website (<http://www.dsir.gov.in>) from time to time.

Annexure IX

प्रसारण माध्यमों में बीपीयू
BPU in Communication Media

Bio-processing unit inaugurated



Mohali: : Dr. MK Bhar, secretary, department of Biotechnology, government of India, inaugurated the transit office of its Bio-Processing Unit at the IISER, Mohali Campus, on 20 August 2012. The BPU aims to lead a knowledge-based bioprocessing mission through translational testing, optimization and up-scaling the existing technologies. Dr RS Sangwan, CEO, BPU, shared his views and mission & vision of the BPU.

The BPU would form an important integral part of the 'Biotechnology Hub' at Knowledge City, Mohali, with the upcoming National Agri-Food Biotechnology Institute and the Agri-Food Biotech Park being the other major partners.

Prof. N. Sathyamurthy, director, IISER; P. Bapaiah, registrar, IISER; Dr. Rakesh Tuli, executive director, NABI; RL Sharma, associate director, NABI, and Dr. Rajesh Kapur, advisor, DBT, also graced the inaugural ceremony along with other officials of NABI, BPU and IISER.



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मोहाली। केंद्रीय बायोटेक्नोलॉजी डिपार्टमेंट के सेक्रेटरी डॉ. एमके भान ने आईआईएसईआर मोहाली कैंपस में बायोप्रोसेसिंग यूनिट का उद्घाटन किया। इस मौके पर संस्था के डायरेक्टर एन सत्यामूर्ति, रजिस्ट्रार, पी बपियाह आदि मौजूद रहे।



BIO PROCESSING UNIT

(An Autonomous Institute of Department of Biotechnology, Government of India)

C-127, Second Floor, Phase VIII, industrial Area, S.A.S. Nagar,
Mohali, Punjab, INDIA - 160071

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